

FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
Ector County Energy Center LLC

AUTHORIZING THE OPERATION OF
Ector County Energy Center
Fossil Fuel Electric Power Generation

LOCATED AT
Ector County, Texas
Latitude 32° 4' 14" Longitude 102° 35' 14"
Regulated Entity Number: RN106754989

This permit is issued in accordance with and subject to the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health and Safety Code and Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits. Under 30 TAC Chapter 122, this permit constitutes the permit holder's authority to operate the site, emission units and affected source listed in this permit. Operations of the site, emission units and affected source listed in this permit are subject to all additional rules or amended rules and orders of the Commission pursuant to the TCAA.

This permit does not relieve the permit holder from the responsibility of obtaining New Source Review authorization for new, modified, or existing facilities in accordance with 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

The site, emission units and affected source authorized by this permit shall be operated in accordance with 30 TAC Chapter 122, the general terms and conditions, special terms and conditions, and attachments contained herein.

This permit shall expire five years from the date of issuance. The renewal requirements specified in 30 TAC § 122.241 must be satisfied in order to renew the authorization to operate the site, emission units and affected source.

Permit No: 03805 Issuance Date: _____

For the Commission

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General Terms and Conditions

The permit holder shall comply with all terms and conditions contained in 30 TAC § 122.143 (General Terms and Conditions), 30 TAC § 122.144 (Recordkeeping Terms and Conditions), 30 TAC § 122.145 (Reporting Terms and Conditions), and 30 TAC § 122.146 (Compliance Certification Terms and Conditions).

In accordance with 30 TAC § 122.144(1), records of required monitoring data and support information required by this permit, or any applicable requirement codified in this permit, are required to be maintained for a period of five years from the date of the monitoring report, sample, or application unless a longer data retention period is specified in an applicable requirement. The five year record retention period supersedes any less stringent retention requirement that may be specified in a condition of a permit identified in the New Source Review Authorization attachment.

If the permit holder chooses to demonstrate that this permit is no longer required, a written request to void this permit shall be submitted to the Texas Commission on Environmental Quality (TCEQ) by the Responsible Official in accordance with 30 TAC § 122.161(e). The permit holder shall comply with the permit's requirements, including compliance certification and deviation reporting, until notified by the TCEQ that this permit is voided.

The permit holder shall comply with 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit.

All reports required by this permit must include in the submittal a cover letter which identifies the following information: company name, TCEQ regulated entity number, air account number (if assigned), site name, area name (if applicable), and Air Permits Division permit number(s).

Special Terms and Conditions:

Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting

1. Permit holder shall comply with the following requirements:
 - A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.
 - B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.
 - C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.
 - D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.

- E. Emission units subject to 40 CFR Part 63, Subpart ZZZZ as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113, Subchapter C, § 113.1090 which incorporates the 40 CFR Part 63 Subpart by reference.
2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):
- A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements
 - B. Title 30 TAC § 101.3 (relating to Circumvention)
 - C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ
 - D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ
 - E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)
 - F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)
 - G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)
 - H. Title 30 TAC § 101.221 (relating to Operational Requirements)
 - I. Title 30 TAC § 101.222 (relating to Demonstrations)
 - J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)
3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:
- A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972 that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1, shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:
 - (i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)
 - (ii) Title 30 TAC § 111.111(a)(1)(E)
 - (iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)
 - (iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive

ventilation, such as plumbing vents; or vent emissions from any other source that does not obstruct the transmission of light. Vents, as specified in the "Applicable Requirements Summary" attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:

- (1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.
- (2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.
- (3) Records of all observations shall be maintained.
- (4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.
- (5) Compliance Certification:
 - (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).
 - (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity

requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

- (c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.
- B. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.
- C. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:
 - (i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)
 - (ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)
 - (iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)
- 4. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 60, unless otherwise stated in the applicable subpart:
 - A. Title 40 CFR § 60.7 (relating to Notification and Recordkeeping)
 - B. Title 40 CFR § 60.8 (relating to Performance Tests)
 - C. Title 40 CFR § 60.11 (relating to Compliance with Standards and Maintenance Requirements)
 - D. Title 40 CFR § 60.12 (relating to Circumvention)
 - E. Title 40 CFR § 60.13 (relating to Monitoring Requirements)
 - F. Title 40 CFR § 60.14 (relating to Modification)
 - G. Title 40 CFR § 60.15 (relating to Reconstruction)
 - H. Title 40 CFR § 60.19 (relating to General Notification and Reporting Requirements)

5. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.

Additional Monitoring Requirements

6. The permit holder shall comply with the periodic monitoring requirements as specified in the attached "Periodic Monitoring Summary" upon issuance of the permit. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permit holder shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time or minimum frequency specified in the "Periodic Monitoring Summary," for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances to avoid reporting deviations. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

New Source Review Authorization Requirements

7. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule, standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:
 - A. Are incorporated by reference into this permit as applicable requirements
 - B. Shall be located with this operating permit
 - C. Are not eligible for a permit shield
8. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.
9. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

Compliance Requirements

10. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing

required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.

11. Use of Discrete Emission Credits to comply with the applicable requirements:
 - A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:
 - (i) Title 30 TAC Chapter 115
 - (ii) Title 30 TAC Chapter 117
 - (iii) If applicable, offsets for Title 30 TAC Chapter 116
 - (iv) Temporarily exceed state NSR permit allowables
 - B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:
 - (i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)
 - (ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4
 - (iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)
 - (iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122
 - (v) Title 30 TAC § 101.375 (relating to Emission Reductions Achieved Outside the United States)

Permit Location

12. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

Permit Shield (30 TAC § 122.148)

13. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

Acid Rain Permit Requirements

14. For units CT-1 and CT-2, located at the affected source identified by ORIS/Facility code 58471, the designated representative and the owner or operator, as applicable, shall comply with the following Acid Rain Permit requirements.

A. General Requirements

- (i) Under 30 TAC § 122.12(1) and 40 CFR Part 72, the Acid Rain Permit requirements contained here are a separable portion of the Federal Operating Permit (FOP) and have an independent public comment process which may be separate from, or combined with the FOP.
- (ii) The owner and operator shall comply with the requirements of 40 CFR Part 72. Any noncompliance with the Acid Rain Permit will be considered noncompliance with the FOP and may be subject to enforcement action.
- (iii) The owners and operators of the affected source shall operate the source and the unit in compliance with the requirements of this Acid Rain Permit and all other applicable State and federal requirements.
- (iv) The owners and operators of the affected source shall comply with the General Terms and Conditions of the FOP that incorporates this Acid Rain Permit.
- (v) The term for the Acid Rain permit shall commence with the issuance of the FOP that incorporates the Acid Rain permit and shall be run concurrent with the remainder of the term of the FOP. Renewal of the Acid Rain permit shall coincide with the renewal of the FOP that incorporates the Acid Rain permit and subsequent terms shall be no more than five years from the date of renewal of the FOP and run concurrent with the permit term of the FOP.

B. Monitoring Requirements

- (i) The owners and operators, and the designated representative, of the affected source and each affected unit at the source shall comply with the monitoring requirements contained 40 CFR Part 75.
- (ii) The emissions measurements recorded and reported in accordance with 40 CFR Part 75 and any other credible evidence shall be used to determine compliance by the affected source with the acid rain emissions limitations for SO₂ under the ARP.
- (iii) The requirements of 40 CFR Part 75 shall not affect the responsibility of the owners and operators to monitor emission of other pollutants or other emissions characteristics at the unit under other applicable requirements of the FCAA Amendments (42 U.S.C. 7401, as amended November 15, 1990) and other terms and conditions of the operating permit for the source.

C. SO₂ emissions requirements

- (i) The owners and operators of each source and each affected unit at the source shall comply with the applicable acid rain emissions limitations for SO₂.
- (ii) As of the allowance transfer deadline the owners and operators of the affected source and each affected unit at the source shall hold, in the unit's compliance

subaccount, allowances in an amount not less than the total annual emissions of SO₂ for the previous calendar year.

- (iii) Each ton of SO₂ emitted in excess of the acid rain emissions limitations for SO₂ shall constitute a separate violation of the FCAA amendments.
- (iv) An affected unit shall be subject to the requirements under (i) and (ii) of the SO₂ emissions requirements as follows:
 - (1) Starting January 1, 2000, an affected unit under 40 CFR § 72.6(a)(2); or
 - (2) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR Part 75, an affected unit under 40 CFR § 72.6(a)(3).
- (v) Allowances shall be held in, deducted from, or transferred into or among Allowance Tracking System accounts in accordance with the requirements of the ARP.
- (vi) An allowance shall not be deducted, for compliance with the requirements of this permit, in a calendar year before the year for which the allowance was allocated.
- (vii) An allowance allocated by the EPA Administrator or under the ARP is a limited authorization to emit SO₂ in accordance with the ARP. No provision of the ARP, Acid Rain permit application, this Acid Rain Permit, or an exemption under 40 CFR §§ 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (viii) An allowance allocated by the EPA Administrator under the ARP does not constitute a property right.

D. Excess emissions requirements for SO₂.

- (i) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR Part 77.
- (ii) If an affected source has excess emissions in any calendar year shall, as required by 40 CFR Part 77:
 - (1) Pay, without demand, the penalty required and pay, upon demand, the interest on that penalty.
 - (2) Comply with the terms of an approved offset plan.

E. Recordkeeping and Reporting Requirements

- (i) Unless otherwise provided, the owners and operators of the affected source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the permitting authority or the EPA Administrator.
 - (1) The certificate of representation for the designated representative for the source and each affected unit and all documents that demonstrate the

truth of the statements in the certificate of representation, in accordance with 40 CFR § 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative.

- (2) All emissions monitoring information, in accordance with 40 CFR Part 75, provided that to the extent that 40 CFR Part 75 provides for a 3-year period for recordkeeping (rather than a five-year period cited in 30 TAC § 122.144), the 3-year period shall apply.
 - (3) Copies of all reports, compliance certifications, and other submissions and all records made or required under the ARP or relied upon for compliance certification.
 - (4) Copies of all documents used to complete an acid rain permit application and any other submission under the ARP or to demonstrate compliance with the requirements of the ARP.
- (ii) The designated representative of an affected source and each affected unit at the source shall submit the reports required under the ARP including those under 40 CFR Part 72, Subpart I and 40 CFR Part 75.

F. Liability

- (i) Any person who knowingly violates any requirement or prohibition of the ARP, a complete acid rain permit application, an acid rain permit, or a written exemption under 40 CFR §§ 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to FCAA § 113(c).
- (ii) Any person who knowingly makes a false, material statement in any record, submission, or report under the ARP shall be subject to criminal enforcement pursuant to FCAA § 113(c) and 18 U.S.C. 1001.
- (iii) No permit revision shall excuse any violation of the requirements of the ARP that occurs prior to the date that the revision takes effect.
- (iv) The affected source and each affected unit shall meet the requirements of the ARP contained in 40 CFR Parts 72, 73, 75, 77, and 78.
- (v) Any provision of the ARP that applies to an affected source or the designated representative of an affected source shall also apply to the owners and operators of such source and of the affected units at the source.
- (vi) Any provision of the ARP that applies to an affected unit (including a provision applicable to the DR of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR § 72.44 (Phase II repowering extension plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR Part 75 (including 40 CFR §§ 75.16, 75.17, and 75.18), the owners and operators and the DR of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the DR and that is located at a source of which they are not owners or operators or the DR.

- (vii) Each violation of a provision of 40 CFR Parts 72, 73, 75, 77, and 78 by an affected source or affected unit, or by an owner or operator or DR of such source or unit, shall be a separate violation of the FCAA Amendments.
- G. Effect on other authorities. No provision of the ARP, an acid rain permit application, an acid rain permit, or an exemption under 40 CFR §§ 72.7 or 72.8 shall be construed as:
- (i) Except as expressly provided in Title IV of the FCAA Amendments, exempting or excluding the owners and operators and, to the extent applicable, the DR of an affected source or affected unit from compliance with any other provision of the FCAA Amendments, including the provisions of Title I of the FCAA Amendments relating to applicable National Ambient Air Quality Standards or State Implementation Plans.
 - (ii) Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the FCAA Amendments.
 - (iii) Requiring a change of any kind in any state law regulating electric utility rates and charges, affecting any state law regarding such state regulation, or limiting such state regulation, including any prudence review requirements under such state law.
 - (iv) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
 - (v) Interfering with or impairing any program for competitive bidding for power supply in a state in which such program is established.
- H. The number of SO₂ allowances allocated by the EPA in 40 CFR Part 73 is enforceable only by the EPA Administrator.

Cross-State Air Pollution Rule (CSAPR) Trading Program Requirements

15. For units CT-1 and CT-2, located at the site identified by Plant code/ORIS/Facility code 58471, the designated representative and the owner or operator, as applicable, shall comply with the following CSAPR requirements.
- A. General Requirements
 - (i) The owners and operators of the CSAPR NO_x source shall operate the source and the unit in compliance with the requirements of the applicable CSAPR Trading Programs and all other applicable State and federal requirements.
 - (ii) The owners and operators of the CSAPR NO_x source shall comply with the requirements of 40 CFR Part 97, Subpart EEEEE for CSAPR NO_x Ozone Season Group 2 Trading Program, and with the General Terms and Conditions of the Federal Operating Permit (FOP) that incorporates the CSAPR requirements.
 - B. Description of CSAPR Monitoring Provisions
 - (i) The CSAPR subject unit(s), and the unit-specific monitoring provisions at this source, are identified in the following paragraph(s). These unit(s) are subject to the requirements for the CSAPR NO_x Ozone Season Group 2 Trading Program.

- (1) For unit(s) CT-1 and CT-2, the owners and operators shall comply with the continuous emission monitoring system or systems (CEMS) requirements pursuant to 40 CFR Part 75, Subpart H for NO_x, and with the excepted monitoring system requirements for gas- and oil-fired units pursuant to 40 CFR Part 75, Appendix D for heat input.
- (ii) The above description of the monitoring used by a unit does not change, create an exemption from, or otherwise affect the monitoring, recordkeeping, and reporting requirements applicable to the unit under 40 CFR §§ 97.830 through 97.835 (CSAPR NO_x Ozone Season Group 2 Trading Program). The monitoring, recordkeeping and reporting requirements applicable to each unit are included below in the standard conditions for the applicable CSAPR trading program.
- (iii) Owners and operators must submit to the Administrator a monitoring plan for each unit in accordance with 40 CFR §§ 75.53, 75.62 and 75.73, as applicable. The monitoring plan for each unit is available at the EPA's website at <https://www.epa.gov/airmarkets/clean-air-markets-monitoring-plans-part-75-sources>.
- (iv) Owners and operators that want to use an alternative monitoring system must submit to the Administrator a petition requesting approval of the alternative monitoring system in accordance with 40 CFR Part 75, Subpart E and 40 CFR § 75.66 and § 97.835 (CSAPR NO_x Ozone Season Group 2 Trading Program). The Administrator's response approving or disapproving any petition for an alternative monitoring system is available on the EPA's website at <https://www.epa.gov/airmarkets/part-75-petition-responses>.
- (v) Owners and operators that want to use an alternative to any monitoring, recordkeeping, or reporting requirement under 40 CFR §§ 97.830 through 97.834 (CSAPR NO_x Ozone Season Group 2 Trading Program) must submit to the Administrator a petition requesting approval of the alternative in accordance with 40 CFR § 75.66 and § 97.835 (CSAPR NO_x Ozone Season Group 2 Trading Program). The Administrator's response approving or disapproving any petition for an alternative to a monitoring, recordkeeping, or reporting requirement is available on the EPA's website at <https://www.epa.gov/airmarkets/part-75-petition-responses>.
- (vi) The descriptions of monitoring applicable to the unit included above meet the requirement of 40 CFR §§ 97.830 through 97.834 (CSAPR NO_x Ozone Season Group 2 Trading Program), and therefore procedures for minor permit revisions, in accordance with 30 TAC § 122.217, may be used to add or change this unit's monitoring system description.

16. CSAPR NO_x Ozone Season Group 2 Trading Program Requirements (40 CFR § 97.806)

A. Designated representative requirements

- (i) The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR §§ 97.813 through 97.818.

B. Emissions monitoring, reporting, and recordkeeping requirements

- (i) The owners and operators, and the designated representative, of each CSAPR NO_x Ozone Season Group 2 source and each CSAPR NO_x Ozone Season

Group 2 unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR § 97.830 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), § 97.831 (initial monitoring system certification and recertification procedures), § 97.832 (monitoring system out-of-control periods), § 97.833 (notifications concerning monitoring), § 97.834 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and § 97.835 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).

- (ii) The emissions data determined in accordance with 40 CFR § 97.830 through § 97.835 and any other credible evidence shall be used to calculate allocations of CSAPR NO_x Ozone Season Group 2 allowances under 40 CFR §§ 97.811(a)(2) and (b) and § 97.812 and to determine compliance with the CSAPR NO_x Ozone Season Group 2 emissions limitation and assurance provisions under paragraph C. below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR §§ 97.830 through 97.835 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

C. NO_x emissions requirements

(i) CSAPR NO_x Ozone Season Group 2 emissions limitation

- (1) As of the allowance transfer deadline for a control period in a given year, the owners and operators of each CSAPR NO_x Ozone Season Group 2 source and each CSAPR NO_x Ozone Season Group 2 unit at the source shall hold, in the source's compliance account, CSAPR NO_x Ozone Season Group 2 allowances available for deduction for such control period under 40 CFR § 97.824(a) in an amount not less than the tons of total NO_x emissions for such control period from all CSAPR NO_x Ozone Season Group 2 units at the source.
- (2) If total NO_x emissions during a control period in a given year from the CSAPR NO_x Ozone Season Group 2 units at a CSAPR NO_x Ozone Season Group 2 source are in excess of the CSAPR NO_x Ozone Season Group 2 emissions limitation set forth in paragraph C.(i)(1) above, then:
 - (a) The owners and operators of the source and each CSAPR NO_x Ozone Season Group 2 unit at the source shall hold the CSAPR NO_x Ozone Season Group 2 allowances required for deduction under 40 CFR § 97.824(d); and
 - (b) The owners and operators of the source and each CSAPR NO_x Ozone Season Group 2 unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 97, Subpart EEEEE and the Clean Air Act.

(ii) CSAPR NO_x Ozone Season Group 2 assurance provisions

- (1) If total NO_x emissions during a control period in a given year from all CSAPR NO_x Ozone Season Group 2 units at CSAPR NO_x Ozone Season Group 2 sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_x emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) CSAPR NO_x Ozone Season Group 2 allowances available for deduction for such control period under 40 CFR § 97.825(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR § 97.825(b), of multiplying -
 - (a) The quotient of the amount by which the common designated representative's share of such NO_x emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such NO_x emissions exceeds the respective common designated representative's assurance level; and
 - (b) The amount by which total NO_x emissions from all CSAPR NO_x Ozone Season Group 2 units at CSAPR NO_x Ozone Season Group 2 sources in the state for such control period exceed the state assurance level.
- (2) The owners and operators shall hold the CSAPR NO_x Ozone Season Group 2 allowances required under paragraph C.(ii)(1) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.
- (3) Total NO_x emissions from all CSAPR NO_x Ozone Season Group 2 units at CSAPR NO_x Ozone Season Group 2 sources in the state during a control period in a given year exceed the state assurance level if such total NO_x emissions exceed the sum, for such control period, of the state NO_x Ozone Season Group 2 trading budget under 40 CFR § 97.810(a) and the state's variability limit under 40 CFR § 97.810(b).
- (4) It shall not be a violation of 40 CFR Part 97, Subpart EEEEE or of the Clean Air Act if total NO_x emissions from all CSAPR NO_x Ozone Season Group 2 units at CSAPR NO_x Ozone Season Group 2 sources in the state during a control period exceed the state assurance level or if a common designated representative's share of total NO_x emissions from the CSAPR NO_x Ozone Season Group 2 units at CSAPR NO_x Ozone Season Group 2 sources in the state during a control period exceeds the common designated representative's assurance level.
- (5) To the extent the owners and operators fail to hold CSAPR NO_x Ozone Season Group 2 allowances for a control period in a given year in accordance with paragraphs C.(ii)(1) through (3) above,

- (a) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and
 - (b) Each CSAPR NO_x Ozone Season Group 2 allowance that the owners and operators fail to hold for such control period in accordance with paragraphs C.(ii)(1) through (3) above and each day of such control period shall constitute a separate violation of 40 CFR Part 97, Subpart EEEEE and the Clean Air Act.
- (iii) Compliance periods
 - (1) A CSAPR NO_x Ozone Season Group 2 unit shall be subject to the requirements under paragraph C.(i) above for the control period starting on the later of May 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR § 97.830(b) and for each control period thereafter.
 - (2) A CSAPR NO_x Ozone Season Group 2 unit shall be subject to the requirements under paragraph C.(ii) above for the control period starting on the later of May 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR § 97.830(b) and for each control period thereafter.
- (iv) Vintage of allowances held for compliance
 - (1) A CSAPR NO_x Ozone Season Group 2 allowance held for compliance with the requirements under paragraph C.(i)(1) above for a control period in a given year must be a CSAPR NO_x Ozone Season Group 2 allowance that was allocated for such control period or a control period in a prior year.
 - (2) A CSAPR NO_x Ozone Season Group 2 allowance held for compliance with the requirements under paragraphs C.(i)(2)(a) and (ii)(1) through (3) above for a control period in a given year must be a CSAPR NO_x Ozone Season Group 2 allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.
- (v) Allowance Management System requirements. Each CSAPR NO_x Ozone Season Group 2 allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR Part 97, Subpart EEEEE.
- (vi) Limited authorization. A CSAPR NO_x Ozone Season Group 2 allowance is a limited authorization to emit one ton of NO_x during the control period in one year. Such authorization is limited in its use and duration as follows:
 - (1) Such authorization shall only be used in accordance with the CSAPR NO_x Ozone Season Group 2 Trading Program; and
 - (2) Notwithstanding any other provision of 40 CFR Part 97, Subpart EEEEE, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines

is necessary or appropriate to implement any provision of the Clean Air Act.

- (vii) Property right. A CSAPR NO_x Ozone Season Group 2 allowance does not constitute a property right.

D. FOP revision requirements

- (i) No FOP revision shall be required for any allocation, holding, deduction, or transfer of CSAPR NO_x Ozone Season Group 2 allowances in accordance with 40 CFR Part 97, Subpart EEEEE.
- (ii) This FOP incorporates the CSAPR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR §§ 97.830 through 97.835, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR Part 75, subpart H), an excepted monitoring system (pursuant to 40 CFR Part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR § 75.19), and an alternative monitoring system (pursuant to 40 CFR Part 75, subpart E). Therefore, the Description of CSAPR Monitoring Provisions for CSAPR subject unit(s) may be added to, or changed, in this FOP using procedures for minor permit revisions in accordance with 30 TAC § 122.217.

E. Additional recordkeeping and reporting requirements

- (i) Unless otherwise provided, the owners and operators of each CSAPR NO_x Ozone Season Group 2 source and each CSAPR NO_x Ozone Season Group 2 unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.
 - (1) The certificate of representation under 40 CFR § 97.816 for the designated representative for the source and each CSAPR NO_x Ozone Season Group 2 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR § 97.816 changing the designated representative.
 - (2) All emissions monitoring information, in accordance with 40 CFR Part 97, Subpart EEEEE.
 - (3) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the CSAPR NO_x Ozone Season Group 2 Trading Program.
- (ii) The designated representative of a CSAPR NO_x Ozone Season Group 2 source and each CSAPR NO_x Ozone Season Group 2 unit at the source shall make all submissions required under the CSAPR NO_x Ozone Season Group 2 Trading Program, except as provided in 40 CFR § 97.818. This requirement does not

change, create an exemption from, or otherwise affect the responsible official submission requirements under 30 TAC § 122.165.

F. Liability

- (i) Any provision of the CSAPR NO_x Ozone Season Group 2 Trading Program that applies to a CSAPR NO_x Ozone Season Group 2 source or the designated representative of a CSAPR NO_x Ozone Season Group 2 source shall also apply to the owners and operators of such source and of the CSAPR NO_x Ozone Season Group 2 units at the source.
- (ii) Any provision of the CSAPR NO_x Ozone Season Group 2 Trading Program that applies to a CSAPR NO_x Ozone Season Group 2 unit or the designated representative of a CSAPR NO_x Ozone Season Group 2 unit shall also apply to the owners and operators of such unit.

G. Effect on other authorities

- (i) No provision of the CSAPR NO_x Ozone Season Group 2 Trading Program or retired unit exemption under 40 CFR § 97.805 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a CSAPR NO_x Ozone Season Group 2 source or CSAPR NO_x Ozone Season Group 2 unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.

Attachments

Applicable Requirements Summary

Additional Monitoring Requirements

Permit Shield

New Source Review Authorization References

Applicable Requirements Summary

Unit Summary	19
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Applicable Requirements Summary	20
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Note: A “none” entry may be noted for some emission sources in this permit’s “Applicable Requirements Summary” under the heading of “Monitoring and Testing Requirements” and/or “Recordkeeping Requirements” and/or “Reporting Requirements.” Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (30 TAC § 122.144), Reporting Terms and Conditions (30 TAC § 122.145), and Compliance Certification Terms and Conditions (30 TAC § 122.146) continue to apply.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
DPT HTR-STK	EMISSION POINTS/ STATIONARY VENTS/ PROCESS VENTS	N/A	R1111	30 TAC Chapter 111, Visible Emissions	No changing attributes.
FWP	SRIC ENGINES	N/A	60III	40 CFR Part 60, Subpart III	No changing attributes.
FWP	SRIC ENGINES	N/A	63ZZZZ	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
GRP-CT	STATIONARY TURBINES	CT-1, CT-2	60KKKK-1	40 CFR Part 60, Subpart KKKK	Fuel Quality = Fuel is demonstrated not to exceed emission standard by characteristics in purchase contract or tariff sheet.
GRP-CT	STATIONARY TURBINES	CT-1, CT-2	60KKKK-2	40 CFR Part 60, Subpart KKKK	Fuel Quality = Fuel is demonstrated not to exceed emission standard by representative fuel sampling data.
GRP-CTSTK	EMISSION POINTS/ STATIONARY VENTS/ PROCESS VENTS	CT-1-STK, CT-2- STK	R1111	30 TAC Chapter 111, Visible Emissions	No changing attributes.

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
DPT HTR-STK	EP	R1111	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(B) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 20% averaged over a six-minute period for any source on which construction was begun after January 31, 1972.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
FWP	EU	60III	NMHC and NO _x	40 CFR Part 60, Subpart III	§ 60.4205(c)-Table 4 § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) § 60.4211(f) § 60.4211(f)(1) § 60.4211(f)(2) § 60.4211(f)(2)(i) § 60.4211(f)(3) § 60.4218	Owners and operators of emergency stationary fire pump CI ICE with a maximum engine power greater than or equal to 75 KW and less than 130 KW and a displacement of less than 30 liters per cylinder and is a 2010 model year and later must comply with an NMHC+NO _x emission limit of 4.0 g/KW-hr, as listed in Table 4 to this subpart.	None	None	None
FWP	EU	60III	PM	40 CFR Part 60, Subpart III	§ 60.4205(c)-Table 4 § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) § 60.4211(f) § 60.4211(f)(1) § 60.4211(f)(2) § 60.4211(f)(2)(i) § 60.4211(f)(3) § 60.4218	Owners and operators of emergency stationary fire pump CI ICE with a maximum engine power greater than or equal to 75 KW and less than 130 KW and a displacement of less than 30 liters per cylinder and is a 2010 model year and later must comply with a PM emission limit of 0.30 g/KW-hr, as listed in Table 4 to this subpart.	None	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
FWP	EU	63ZZZZ	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(c)	Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines as applicable. No further requirements apply for such engines under this part.	None	None	None
GRP-CT	EU	60KKKK-1	NO _x	40 CFR Part 60, Subpart KKKK	§ 60.4320(a)-Table 1 § 60.4320(a) § 60.4320(b) § 60.4333(a) § 60.4335(b)(1) [G]§ 60.4345	New, modified, or reconstructed turbine firing natural gas with a heat input at peak load > 850 MMBtu/h must meet the nitrogen oxides emission standard of 15 ppm at 15 percent O ₂ .	§ 60.4335(b)(1) [G]§ 60.4345 § 60.4350(a) § 60.4350(b) § 60.4350(c) § 60.4350(d) § 60.4350(e) § 60.4350(f) § 60.4350(g) [G]§ 60.4400(a) § 60.4400(b) § 60.4400(b)(4) § 60.4400(b)(5) § 60.4400(b)(6) [G]§ 60.4405	[G]§ 60.4345 § 60.4350(b)	[G]§ 60.4345 § 60.4350(d) § 60.4375(a) § 60.4380 [G]§ 60.4380(b) § 60.4395

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRP-CT	EU	60KKKK-1	SO ₂	40 CFR Part 60, Subpart KKKK	§ 60.4330(a)(2) § 60.4333(a)	You must not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO ₂ /J (0.060 lb SO ₂ /MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement.	§ 60.4365 § 60.4365(a) § 60.4415(a) § 60.4415(a)(1) § 60.4415(a)(1)(ii)	§ 60.4365(a)	§ 60.4375(a)
GRP-CT	EU	60KKKK-2	NO _x	40 CFR Part 60, Subpart KKKK	§ 60.4320(a)-Table 1 § 60.4320(a) § 60.4320(b) § 60.4333(a) § 60.4335(b)(1) [G]§ 60.4345	New, modified, or reconstructed turbine firing natural gas with a heat input at peak load > 850 MMBtu/h must meet the nitrogen oxides emission standard of 15 ppm at 15 percent O ₂ .	§ 60.4335(b)(1) [G]§ 60.4345 § 60.4350(a) § 60.4350(b) § 60.4350(c) § 60.4350(d) § 60.4350(e) § 60.4350(f) § 60.4350(g) [G]§ 60.4400(a) § 60.4400(b) § 60.4400(b)(4) § 60.4400(b)(5) § 60.4400(b)(6) [G]§ 60.4405	[G]§ 60.4345 § 60.4350(b)	[G]§ 60.4345 § 60.4350(d) § 60.4375(a) § 60.4380 [G]§ 60.4380(b) § 60.4395
GRP-CT	EU	60KKKK-2	SO ₂	40 CFR Part 60, Subpart KKKK	§ 60.4330(a)(2) § 60.4333(a)	You must not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO ₂ /J (0.060 lb SO ₂ /MMBtu) heat input. If your turbine simultaneously fires multiple fuels, each fuel must meet this requirement.	§ 60.4365 § 60.4365(b) § 60.4415(a) § 60.4415(a)(1) § 60.4415(a)(1)(ii)	§ 60.4365(b)	§ 60.4375(a)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRP-CTSTK	EP	R1111	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six-minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None

Additional Monitoring Requirements

Periodic Monitoring Summary 25

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: DPT HTR-STK	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111
Pollutant: PM (OPACITY)	Main Standard: § 111.111(a)(1)(B)
Monitoring Information	
Indicator: Fuel Type	
Minimum Frequency: Annually	
Averaging Period: n/a	
Deviation Limit: Combust only pipeline quality natural gas (burn no alternate fuels)	
Periodic Monitoring Text: Record the type of fuel used by the unit. If an alternate fuel is fired, either alone or in combination with the specified gas, it shall be considered and reported as a deviation.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: GRP-CTSTK	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111
Pollutant: PM (OPACITY)	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Fuel Type	
Minimum Frequency: Annually	
Averaging Period: n/a	
Deviation Limit: Combust only pipeline quality natural gas (burn no alternate fuels)	
Periodic Monitoring Text: Record the type of fuel used by the unit. If an alternate fuel is fired, either alone or in combination with the specified gas, it shall be considered and reported as a deviation.	

Permit Shield

Permit Shield 28

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
CONDTK	N/A	40 CFR Part 60, Subpart Kb	Storage capacity of unit is less than 75 cubic meters.
DPT HTR	N/A	40 CFR Part 63, Subpart DDDDD	Unit is not located at a major source of HAPs.
FWP-TANK	N/A	40 CFR Part 60, Subpart Kb	Storage capacity of unit is less than 75 cubic meters.
GRP-CT	CT-1, CT-2	40 CFR Part 60, Subpart GG	Units were constructed after February 18, 2005 and are subject to NSPS KKKK. Units regulated under NSPS KKKK are exempt from the requirements of NSPS GG.
GRP-CT	CT-1, CT-2	40 CFR Part 63, Subpart YYYY	Units are not located at a major source of HAPs.
GRP-LUBE	CT-1LUBE, CT-2LUBE	40 CFR Part 60, Subpart Kb	The units are process tanks and therefore are excluded from the definition of a storage vessel in Part 60, Subpart Kb.

New Source Review Authorization References

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New Source Review Authorization References by Emission Unit	31

New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Prevention of Significant Deterioration (PSD) Permits	
PSD Permit No.: PSDTX1366	Issuance Date: 01/31/2017
PSD Permit No.: GHGPSDTX49*	Issuance Date: 08/24/2016
Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 110423	Issuance Date: 01/31/2017
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.102	Version No./Date: 09/04/2000
Number: 106.122	Version No./Date: 09/04/2000
Number: 106.183	Version No./Date: 09/04/2000
Number: 106.227	Version No./Date: 09/04/2000
Number: 106.242	Version No./Date: 09/04/2000
Number: 106.261	Version No./Date: 11/01/2003
Number: 106.262	Version No./Date: 11/01/2003
Number: 106.263	Version No./Date: 11/01/2001
Number: 106.265	Version No./Date: 09/04/2000
Number: 106.266	Version No./Date: 09/04/2000
Number: 106.355	Version No./Date: 11/01/2001
Number: 106.371	Version No./Date: 09/04/2000
Number: 106.454	Version No./Date: 11/01/2001
Number: 106.471	Version No./Date: 09/04/2000
Number: 106.472	Version No./Date: 09/04/2000
Number: 106.473	Version No./Date: 09/04/2000
Number: 106.511	Version No./Date: 09/04/2000

* For reference, EPA issued permit PSD-TX-1366-GHG has been assigned permit number GHGPSDTX49.

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
CONDTK	CONDENSATE STORAGE TANK	106.473/09/04/2000
CT-1	COMBUSTION TURBINE UNIT 1	110423, PSDTX1366, GHGPSDTX49
CT-1LUBE	LUBE OIL TANK FOR COMBUSTION TURBINE 1	110423, PSDTX1366
CT-1-STK	COMBUSTION TURBINE UNIT 1 STACK	110423, PSDTX1366, GHGPSDTX49
CT-2	COMBUSTION TURBINE UNIT 2	110423, PSDTX1366, GHGPSDTX49
CT-2LUBE	LUBE OIL TANK FOR COMBUSTION TURBINE 2	110423, PSDTX1366
CT-2-STK	COMBUSTION TURBINE UNIT 2 STACK	110423, PSDTX1366, GHGPSDTX49
DPT HTR	DEW POINT HEATER	106.183/09/04/2000, GHGPSDTX49
DPT HTR-STK	DEW POINT HEATER STACK	106.183/09/04/2000, GHGPSDTX49
FWP	FIRE WATER PUMP	110423, PSDTX1366, GHGPSDTX49
FWP-TANK	FIRE WATER PUMP DIESEL STORAGE TANK	106.472/09/04/2000

Appendix A

Acronym List 33

Acronym List

The following abbreviations or acronyms may be used in this permit:

ACFM	actual cubic feet per minute
AMOC	alternate means of control
ARP	Acid Rain Program
ASTM	American Society of Testing and Materials
B/PA	Beaumont/Port Arthur (nonattainment area)
CAM	Compliance Assurance Monitoring
CD	control device
CEMS	continuous emissions monitoring system
CFR	Code of Federal Regulations
COMS	continuous opacity monitoring system
CVS	closed vent system
D/FW	Dallas/Fort Worth (nonattainment area)
EP	emission point
EPA	U.S. Environmental Protection Agency
EU	emission unit
FCAA Amendments	Federal Clean Air Act Amendments
FOP	federal operating permit
gr/100 scf	grains per 100 standard cubic feet
HAP	hazardous air pollutant
H/G/B	Houston/Galveston/Brazoria (nonattainment area)
H ₂ S	hydrogen sulfide
ID No.	identification number
lb/hr	pound(s) per hour
MACT	Maximum Achievable Control Technology (40 CFR Part 63)
MMBtu/hr	Million British thermal units per hour
NA	nonattainment
N/A	not applicable
NADB	National Allowance Data Base
NESHAP	National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)
NO _x	nitrogen oxides
NSPS	New Source Performance Standard (40 CFR Part 60)
NSR	New Source Review
ORIS	Office of Regulatory Information Systems
Pb	lead
PBR	Permit By Rule
PEMS	predictive emissions monitoring system
PM	particulate matter
ppmv	parts per million by volume
PRO	process unit
PSD	prevention of significant deterioration
psia	pounds per square inch absolute
SIP	state implementation plan
SO ₂	sulfur dioxide
TCEQ	Texas Commission on Environmental Quality
TSP	total suspended particulate
TVP	true vapor pressure
U.S.C.	United States Code
VOC	volatile organic compound

Appendix B

Major NSR Summary Table 35

Major NSR Summary Table

Permit Number: 110423 and PSDTX1366 Issuance Date: 01/31/2017							
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (5)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY(4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
CT-1	Unit 1 – GE7FA.03	NO _x (6)	62.34	52.68	4, 7, 8, 10, 16, 18.	4, 6, 10, 16, 17, 21, 22.	4, 16, 17, 23.
		NO _x (Peak Firing) (6)(7)	100.00		7, 9	10, 17, 22	
		NO _x (MSS) (6)	140.00		7, 10, 13, 14, 17, 18,	17, 22	
		CO (6)	37.95	132.27	7, 8, 16, 17, 18,	6, 16, 17, 21, 22	16, 17, 23
		CO (MSS) (6)	477.60		7, 13, 17, 18.	17, 22	
		VOC	13.28	16.24	7, 16, 18, 19.	6, 16, 21, 22	16
		VOC (MSS)	36.00		7, 13, 18, 19,	21, 22	
		PM	25.15	22.98	7, 10, 16, 18, 19	6, 16, 21, 22	16
		PM ₁₀	25.15	22.98	7, 10, 16, 18, 19,	6, 16, 21, 22	16
		PM _{2.5}	25.15	22.98	7, 10, 16, 18, 19,	6, 16, 21, 22	16
		SO ₂	27.40	20.57	4, 7, 14, 16, 18,	4, 6, 16, 21, 22	4, 16
		H ₂ SO ₄	12.59	9.45	7, 18,	6, 22	
CT-2	Unit 2 – GE7FA.03 (5)	NO _x (6)	62.34	52.68	4, 7, 8, 10, 16, 17, 18.	4, 6, 10, 16, 17, 21, 22.	4, 16, 17, 23
		NO _x (Peak Firing) (6)(7)	100.00		7, 9	10, 17, 22.	
		NO _x (MSS) (6)	140.00		7, 10, 13, 14, 17, 18.	17, 22.	
		CO (6)	37.95	132.27	7, 8, 16, 17, 18.	6, 16, 17, 21, 22.	16, 17, 23.
		CO (MSS) (6)	477.60		7, 13, 17, 18.	17, 22	
		VOC	13.28	16.24	7, 16, 18, 19.	6, 16, 21, 22	16
		VOC (MSS)	36.00		7, 13, 18, 19.	21, 22	
		PM	25.15	22.98	7, 10, 16, 18, 19.	6, 16, 21, 22	16
		PM ₁₀	25.15	22.98	7, 10, 16, 18, 19.	6, 16, 21, 22	16
		PM _{2.5}	25.15	22.98	7, 10, 16, 18, 19.	6, 16, 21, 22	16
		SO ₂	27.40	20.57	4, 7, 10, 16, 18.	4, 6, 16, 21, 22	4, 16
		H ₂ SO ₄	12.59	9.45	7, 18.	6, 22	

Major NSR Summary Table

Permit Number: 110423 and PSDTX1366 Issuance Date: 01/31/2017							
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (5)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY(4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
CTLV1	Combustion Turbine 1 Lube Oil Vent	VOC	0.09	0.40	19	GC 7, 22	
		PM	0.09	0.40	19	GC 7, 22	
		PM ₁₀	0.09	0.40	19	GC 7, 22	
		PM _{2.5}	0.09	0.40	19	GC 7, 22	
CTLV2	Combustion Turbine 2 Lube Oil Vent	VOC	0.09	0.40	19	GC 7, 22	
		PM	0.09	0.40	19	GC 7, 22	
		PM ₁₀	0.09	0.40	19	GC 7, 22	
		PM _{2.5}	0.09	0.40	19	GC 7, 22	
FWP	Firewater Pump (6) 121 hp diesel fired	NO _x	0.75	0.04	4, 7	4, 6, 22.	
		CO	0.27	0.01	4, 7	4, 6, 22	
		VOC	0.03	0.01	5, 7	5, 22	
		PM	0.02	0.01	4, 7	4, 6, 22	
		PM ₁₀	0.02	0.01	7	6, 22	
		PM _{2.5}	0.02	0.01	7	6, 22	
NGFUG	Natural Gas Fugitives (7)	VOC	0.01	0.02	19	22	
MSSFUG	MSS Fugitives (7)	NO _x	<0.01	<0.1	11, 12, 14	22	
		CO	<0.01	<0.01	11, 12, 14	22	
		VOC	0.07	<0.01	11, 12, 14	22	
		PM	0.09	0.02	11, 12, 14	22	
		PM ₁₀	0.09	0.02	11, 12, 14	22	
		PM _{2.5}	0.09	0.02	11, 12, 14	22	

Footnotes:

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
- (3)

NO _x	-	total oxides of nitrogen
CO	-	carbon monoxide
VOC	-	volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
PM	-	total particulate matter, suspended in the atmosphere, including PM ₁₀ and PM _{2.5} , as represented
PM ₁₀	-	total particulate matter equal to or less than 10 microns in diameter, including PM _{2.5} , as represented
PM _{2.5}	-	particulate matter equal to or less than 2.5 microns in diameter
SO ₂	-	sulfur dioxide
H ₂ SO ₄	-	sulfuric acid
MSS	-	maintenance, startup, and shutdown
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Planned MSS for all pollutants are authorized even if not specifically identified as MSS. During any clock hour that includes one or more minutes of planned MSS that pollutant's maximum hourly emission rate shall apply during that clock hour. The ton per year emission rates include MSS.
- (6) For each pollutant whose emissions during planned MSS activities are measured using a CEMS, the MSS lb/hr limits apply only during each clock hour that includes one or more minutes of MSS activities. During all other clock hours, the lb/hr limits for normal operations or peak firing operations apply, as applicable, subject to the qualifying requirements in Special Condition No. 9.
- (7) This hourly emission rate is authorized only during periods of peak firing operation of the GE model turbine, when turbine operation is above base load, subject to the qualifying requirements in Special Condition No. 9.
- (8) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Major NSR Summary Table

Permit Number: GHGPSDTX49				Issuance Date: 08/24/2016			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
CTG-1 CTG-2	Natural Gas Fired-Simple Cycle GE 7FA.03 Combustion Turbines	CO ₂		239,420 ³	III.A., VI.A.	III.A., IV.A., VI.A.B.,D.,	I.B., I.D., VI.A.B.,C.,E.
		CH ₄		4.4 ³	III.A., VI.A.,D.,	III.A., IV.A., VI.A.B.,D.,	I.B., I.D., VI.A.B.,C.,E.
		N ₂ O		0.4 ³	III.A., VI.A.,D.,	III.A., IV.A., VI.A.B., D.,	I.B., I.D., VI.A.B.,C.,E.
		CO ₂ e ^{1,2,}		239,649 ³	III.A., VI.A.,D.,	III.A., IV.A., VI.A.B., D.,	I.B., I.D., VI.A.B.,C.,E.
CTG-1 CTG-2	Natural Gas Fired-Simple Cycle GE 7FA.03 Combustion Turbines MSS (4)	CO ₂		10,500 ⁴	III.A.	III.A., IV.A.	I.B., I.D.
		CH ₄		0.06 ⁴	III.A.	III.A., IV.A.	I.B., I.D.
		N ₂ O		No numerical limit established ⁵	III.A.	III.A., IV.A.	I.B., I.D.
		CO ₂ e ^{1,2,}		10,502 ⁴	III.A.	III.A., IV.A.	I.B., I.D.
DPT HTR-3	Natural Gas-Fired Dew-Point Heater (Max net heat input MMBtu/hr)	CO ₂		2,630	III.B.	III.B., IV.A.	I.B., I.D.
		CH ₄		0.05	III.B.	III.B., IV.A.	I.B., I.D.
		N ₂ O		No numerical limit established ⁵	III.B.	III.B., IV.A.	I.B., I.D.
		CO ₂ e		2,631	III.B.	III.B., IV.A.	I.B., I.D.

Major NSR Summary Table

Permit Number: GHGPSDTX49				Issuance Date: 08/24/2016			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
FWP-4	Firewater Pump Engine	CO ₂		5.44	III.C., VI.G.	III.C., IV.A.	I.B., I.D., III.C.
		CH ₄		No numerical limit established ⁵	III.C., VI.G.	III.C., IV.A.	I.B., I.D., III.C.
		N ₂ O		No numerical limit established ⁵	III.C., VI.G.	III.C., IV.A.	I.B., I.D., III.C.
		CO ₂ e		5	III.C., VI.G.	III.C., IV.A.	I.B., I.D., III.C.
SF-6	Fugitive SF6 Breaker Emissions	SF ₆		No numerical limit established ⁶	III.D.	IV.A.	I.B., I.D.
		CO ₂ e		No numerical limit established ⁶	III.D.	IV.A.	I.B., I.D.
NG-FUG	Fugitives from various piping components	CH ₄		No numerical limit established ⁷	III.E.	III.E., IV.A.	I.B., I.D.
		CO ₂ e		No numerical limit established ⁷	III.E.	III.E., IV.A.	I.B., I.D.

Footnotes:

1. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions from the facility during all operations and include MSS activities.
2. Global Warming Potentials (GWP): CO₂=1, CH₄ = 25, N₂O =298, SF₆=22,800
3. The GHG Mass Basis TPY limit and the CO₂e TPY limit for the natural gas fired simple cycle turbines applies to each turbine and is not a combined limit.
4. The GHG Mass Basis TPY limit and the CO₂e TPY limit for the natural gas fired simple cycle turbines – MSS includes emissions associated with gaseous fuel venting of the fuel lines during a turbine shutdown or maintenance and applies to each turbine and is not a combined limit.
5. These values indicated as “No Numerical Limit Established” are less than 0.01 TPY with appropriate rounding. The emission limit will be a design/work practice standard as specified in the permit.
6. Fugitive Leak Emissions from SF₆-FUG are estimated to be 0.0006 TPY SF₆ and 13.7 TPY CO₂e. In lieu of an emission limit, the emissions will be limited by implementing a design/work practice standard as specified in the permit.
7. Fugitive Leak Emissions from NG-FUG are estimated to be 0.134TPY CO₂, 10.08 TPY CH₄, and 252.25 TPY CO₂e. In lieu of an emission limit, the emissions will be limited by implementing a design/work practice standard as specified in the permit.



Texas Commission on Environmental Quality Air Quality Permit

A Permit Is Hereby Issued To
Ector County Energy Center LLC
Authorizing the Construction and Operation of
Ector County Energy Center
Located at Goldsmith, Ector County, Texas
Latitude 32° 4' 10" Longitude -102° 35' 8"

Permits: 110423 and PSDTX1366

Amendment Date: January 31, 2017

Expiration Date: August 1, 2024

A handwritten signature in black ink, appearing to read "R. D. A. Hyle".

For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)]¹
2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1) the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of \$5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]
8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)]¹
9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC §101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC§ 116.115(b)(2)(G)]
10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) §382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit.¹

¹ Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Special Conditions

Permit Numbers 110423 and PSDTX1366

Emission Rates and Permit Representations

1. This permit covers only those sources of emissions listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and those sources are limited to the emission limits and other conditions specified in that attached table. This permit authorizes planned maintenance, startup, and shutdown (MSS) activities which comply with the emission limits in the maximum allowable emission rates table (MAERT).
2. Emission limits are based upon representations in the permit application dated May 13, 2013, as subsequently updated. **(01/17)**
3. The following sources are authorized under Title 30 Texas Administrative Code Chapter 106 (30 TAC Chapter 106):

Permit By Rule (PBR)	PBR No.
Boilers, Heaters, and Other Combustion Devices	106.183
Organic and Inorganic Liquid Loading and Unloading	106.472

Federal Applicability

4. The sources identified in this condition are subject to and shall comply with applicable requirements of Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60):

Source	Emission Point Number (EPN)	Subpart	Standards of Performance for:
Combustion Turbines (CTGs)	CT-1	A	General Conditions
	CT-2	KKKK	Stationary Gas Turbines
Fire Water Pump Engine	FWP	A	General Conditions
		III	Stationary Compression-Ignition Internal Combustion Engines

5. The sources identified in this condition are subject to and shall comply with applicable requirements of 40 CFR Part 63 follows:

Source	EPN	Subpart	Standards of Performance for:
Fire Water Pump Engine	FWP	A	General Conditions
		ZZZZ	Stationary Reciprocating Internal Combustion Engines

Operating Limitations, Performance Standards, and Fuel Specifications

6. This permit authorizes two natural gas-fired CTGs (identified as Unit 1 and Unit 2) to operate in simple cycle, and one emergency fire water pump engine (EPN FWP). Each CTG shaft drives an electric generator. The CTGs may employ evaporative cooling for power enhancement.
 - A. This permit authorizes construction and operation of two General Electric (GE) 7FA.03 CTGs. **(10/14)**
 - B. The 121-horsepower (hp) emergency fire water pump engine is limited to 100 hours of non-emergency operation per year, on a rolling 12-month basis. **(01/17)**
 - C. Each CTG (EPNs: CT-1 and CT-2) is limited to no more than 2,500 hours of operation per rolling 12-month period.
7. Fuel Specifications
 - A. Fuel for the CTGs shall be limited to firing pipeline-quality, sweet natural gas containing no more than 1.0 grain total sulfur per 100 dry standard cubic feet (dscf).
 - B. The permit holder shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the average hourly natural gas consumption of each CTG. The permit holder shall comply with the applicable initial certification and ongoing quality assurance requirements of 40 CFR Part 75, Appendix D for each CTG.
 - C. The emergency fire water pump engine must use diesel fuel containing no more than 0.0015 percent (%) sulfur by weight.
 - D. Upon request by the Executive Director of the TCEQ or any air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel fired in the CTGs and the fire water pump engine, or shall allow air pollution control agency representatives to obtain a sample for analysis.
8. While operating in normal operation, emissions from Unit 1 and Unit 2 shall not exceed the following concentrations in parts per million by volume, dry basis (ppmvd) at 15% oxygen (O₂). Compliance with the nitrogen oxides (NO_x) and carbon monoxide (CO) concentration limits shall be demonstrated on a three-hour rolling average using the continuous emissions monitoring systems (CEMS) required by Special Condition No. 17.

Pollutant	Concentration (ppmvd)
NO _x	9.0
CO	9.0

9. Peak firing operation (greater than base load) of the GE 7FA.05 CTGs is limited as follows: **(01/17)**

- A. The one-hour NO_x concentration shall not exceed 15 ppmvd at 15% O_2 , and emissions greater than this concentration during peak firing are considered an emission exceedance.
 - B. A peak firing one-hour NO_x concentration may be excluded from the rolling 3-hour average concentration limitation in Special Condition No. 8 if:
 - (1) the one-hour concentration is above 9 ppmvd at 15% O_2 and
 - (2) the qualifying one-hour NO_x concentration, as described in paragraph B(1) of this Special Condition No. 9, occurs during an hour where turbine operation is above base load.
 - C. The maximum number of hours of NO_x concentration during peak firing operations that may be excluded from the rolling 3-hour average concentration in Special Condition No. 8 shall not exceed 200 hours per year (combined from both CTGs), based on a rolling 12-month period.
10. Except during MSS activities, the opacity of emissions from the CT-1 and CT-2 shall not exceed 5% averaged over a six-minute period from each stack or vent. During MSS activities, the opacity shall not exceed 15%. Each determination shall be made by first observing for visible emissions while each facility is in operation. Observations shall be made at least 15 feet and no more than 0.25 miles from the emission point. If visible emissions are observed from an emission point, then the opacity shall be determined and documented within 24 hours for that emission point using 40 CFR Part 60, Appendix A, Test Method 9. Contributions from uncombined water shall not be included in determining compliance with this condition. Observations shall be performed and recorded quarterly. If the opacity exceeds five percent during normal operations or 15% during MSS activities, corrective action to eliminate the source of visible emissions shall be taken promptly and documented within one week of first observation.

Maintenance, Startup and Shutdown

- 11. Attachment A identifies the inherently low emitting (ILE) planned maintenance activities that this permit authorizes to be performed. Attachment B identifies the planned maintenance activities that are non-ILE planned maintenance activities that this permit authorizes to be performed.
- 12. The holder of this permit shall minimize emissions during planned MSS activities by operating the facility and associated air pollution control equipment in accordance with good air pollution control practices, safe operating practices, and protection of the facility.
- 13. Emissions during planned MSS activities will be minimized by limiting the duration of operation in planned MSS modes as follows:
 - A. A planned startup event is defined as the period beginning when the gas turbine receives a "turbine start" signal and an initial flame detection signal is recorded in the plant's control system and ending when the combustion turbine output reaches the lean pre-mix operating mode. A planned startup for each CT is limited to 60 minutes.

- B. A shutdown event is defined as the period beginning when the gas turbine receives a “turbine stop” command and the generator output drops below the minimum stable load and ending when a flame detection signal is no longer recorded in the plant’s control system. A planned shutdown for each CTG is limited to 60 minutes.
 - C. Emissions from CTG optimization activities, as defined in Attachment B, shall be subject to the hourly emission limits for MSS activities from CTGs listed on the MAERT. The emissions from such activities shall not exceed the hourly emission limits for normal operation for more than eight hours per calendar day.
14. Compliance with the emissions limits for planned MSS activities identified in the MAERT attached to this permit shall be demonstrated as follows.
- A. For ILE planned maintenance activities identified in Attachment A of this permit:
 - (1) The total emissions from all ILE planned maintenance activities shall be considered to be no more than the estimated potential to emit for those activities that are represented in the permit application.
 - (2) The permit holder shall annually confirm the continued validity of the estimated potential to emit represented in the permit application for all ILE planned maintenance activities.
 - B. For CT planned non-ILE maintenance activities identified in Attachment B of this permit, the permit holder shall do the following.
 - (1) For each pollutant whose emissions are measured with a CEMS that has been certified to measure the pollutant’s emissions over the entire range of a planned MSS activity, the permit holder shall measure the emissions of the pollutant during the planned MSS activity using the CEMS.
 - (2) For each pollutant whose emissions are not measured with a CEMS in accordance with B(1) of this condition, determine for each calendar month the emissions of each pollutant listed on the MAERT of this permit from all occurrences of planned MSS activity by calculation. The calculations of the pollutant’s hourly and monthly emissions must use data related to the planned MSS activity, identified in turbine operating records, work orders, or equivalent records. The emission rate of the pollutant during the planned MSS activity must be determined either:
 - (a) as represented in the permit application; or
 - (b) as determined with an appropriate method, including but not limited to any of the following methods, provided that the permit holder maintains appropriate records supporting such determination:
 - i. use of emission factor(s), facility-specific parameter(s), and/or engineering knowledge of the facility’s operations;
 - ii. use of emissions data measured (by a CEMS or during emissions testing) during the same type of planned MSS activity occurring at or on a similar facility, and correlation of that data with the activity’s or facility’s relevant operating parameters;

- iii. use of emissions testing data collected during a planned MSS activity occurring at or on the facility, and correlation of that data with the facility's or activity's relevant operating parameters, such as electric load, temperature, fuel input, or fuel sulfur content; or
- iv. use of parametric monitoring system data applicable to the facility.

Initial Determination of Compliance

15. Sampling ports and platforms shall be incorporated into the design of the exhaust stacks identified as EPNs CT-1 and CT-2, according to the specifications set forth in the attachment entitled "Chapter 2, Guidelines for Stack Sampling Facilities." Alternate sampling facility designs may be submitted for approval by the TCEQ Regional Director.
16. The holder of this permit shall perform stack sampling and other testing to establish the actual quantities of air contaminants being emitted into the atmosphere from EPNs CT-1 and CT-2. Unless otherwise specified in this special condition, the sampling and testing shall be conducted in accordance with the methods and procedures specified in Special Condition No. 16F. The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. The TCEQ Executive Director or his designated representative shall be afforded the opportunity to observe all such sampling.
 - A. Air contaminants and diluents from the CTGs to be sampled and analyzed include (but are not limited to) NO_x , CO, volatile organic compounds (VOC), sulfur dioxide (SO_2), opacity, O_2 , and particulate matter (PM) (filterable plus condensable fractions).
 - B. The CTGs shall be tested at the maximum load for the atmospheric conditions which exist during testing. CT generator load shall be identified in the sampling report.
 - C. Fuel sampling using the methods and procedures of 40 CFR § 60.4415 may be conducted in lieu of stack sampling for SO_2 . If fuel sampling is used, then compliance with the 40 CFR Part 60, Subpart KKKK, SO_2 limits shall be based on 100% conversion of the sulfur in the fuel to SO_2 .
 - D. Requests to waive testing for any air contaminant specified in this condition shall be submitted to the TCEQ Air Permits Division. Test waivers and alternate or equivalent procedure proposals for testing which must have EPA approval shall be submitted to the TCEQ Air Permits Division.
 - E. Sampling as required by this condition shall occur within 60 days after achieving the maximum production but no later than 180 days after initial startup of each unit. Additional sampling shall occur as may be required by the TCEQ or EPA.
 - F. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ "Sampling Procedures Manual" and EPA Test Methods in 40 CFR Part 60, Appendix A.
 - G. The TCEQ Midland Regional Office shall be given notice as soon as testing is scheduled but not less than 30 days prior to sampling to schedule a pretest meeting.
 - (1) The notice shall include:

- (a) Date for pretest meeting.
 - (b) Date sampling will occur.
 - (c) Name of firm conducting sampling.
 - (d) Type of sampling equipment to be used.
 - (e) Methods and procedures to be used in sampling, including methods to demonstrate compliance with emission standards found in 40 CFR Part 60, Subpart KKKK.
 - (f) Procedure used to determine turbine loads during the sampling period.
- (2) The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.
- (3) Prior to the pretest meeting, a written proposed description of any deviation from sampling procedures specified in permit conditions or TCEQ or EPA sampling procedures shall be made available to the TCEQ. The TCEQ Regional Director shall approve or disapprove of any deviation from specified sampling procedures.
- H. Copies of the final sampling report shall be distributed to the TCEQ and EPA within 60 days after sampling is completed. Sampling report format shall comply with Chapter 14 of the TCEQ "Sampling Procedures Manual." The reports shall be distributed as follows:
 - (1) One copy to the EPA Region 6 Office, Dallas.
 - (2) One copy to the TCEQ Midland Regional Office.

Continuous Determination of Compliance

- 17. The permit holder shall install, calibrate, and maintain a CEMS to measure and record the in-stack concentration of NO_x, CO, and O₂ from each CTG stack, EPNs CT-1 and CT-2.
 - A. The NO_x and O₂ CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specification Nos. 2 and 3, 40 CFR Part 60, Appendix B. The permit holder shall assure that the CEMS meets the applicable quality-assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, 5.2.3 and any CEMS downtime shall be reported to the TCEQ Midland Regional Director, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the TCEQ Midland Regional Director. Compliance with the CEMS requirements of 40 CFR Part 60 can be demonstrated by meeting the applicable requirements of 40 CFR Part 75 provided that the holder of this permit demonstrates compliance with all applicable 40 CFR Part 60 emission standards.
 - B. The CO CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting

requirements specified in the applicable performance specifications in 40 CFR Part 60, Performance Specification No. 4. The CEMS shall meet the applicable quality assurance requirements specified in 40 CFR Part 60, Appendix F, except that cylinder gas audits (CGA) conducted in all four quarters may be used in lieu of the annual relative accuracy test audit (RATA). Quarterly CGAs shall be conducted at least 60 days apart. A CGA is not required in any quarter in which the CTG operates less than 168 hours.

- C. Relative accuracy exceedances (as specified in 40 CFR Part 60, Appendix F), CGA exceedances of $\pm 15\%$ accuracy, and any CEMS downtime shall be reported to the TCEQ Midland Regional Director, and necessary corrective action shall be taken. Supplemental stack sampling may be required at the discretion of the TCEQ Midland Regional Director.
 - D. If any emission monitor fails to meet specified performance, it shall be repaired or replaced immediately. If repair or replacement is not immediately feasible, the monitor shall be repaired or replaced no later than seven days after the failure is first detected by an employee at the site, unless written permission is obtained from the TCEQ which allows for longer repair/replacement time. The holder of this permit shall develop an operation and maintenance program (including stocking necessary spare parts) to ensure that the continuous monitors are available as required. A monitor with downtime due to breakdown or repair of more than 10% of the facility operating time for any calendar year will be considered as a defective monitor and the monitor must be replaced within two weeks after exceeding the 10% threshold.
 - E. The monitoring data shall be reduced to hourly average concentrations at least once every day, using a minimum of four equally-spaced data points from each one-hour period. The individual average concentrations shall be reduced to units of lbs/hr at least once every day.
 - F. The monitoring data and quality-assurance data shall be maintained by the source. The data from the CEMS will be used to determine compliance with the conditions of this permit. During periods where the CEMS data is unavailable or not quality assured, compliance may alternatively be determined by using manufacturer emission factors or valid and representative data previously measured and recorded by the unit's CEMS under similar operating conditions.
 - G. The TCEQ Regional Office in Midland shall be notified at least 30 days prior to any RATA in order to provide them the opportunity to observe the testing.
18. The permit holder shall monitor fuel consumption from Unit 1 and Unit 2 individually and continuously, using monitoring devices that are accurate to $\pm 2.0\%$ of the unit's maximum flow and maintain, calibrate, and operate the devices in accordance with the manufacturer's specifications. The devices shall be calibrated in accordance with the manufacturer's recommendations or at least annually.
19. After the initial demonstration of compliance, ongoing compliance with the VOC and PM (including PM_{10} and $PM_{2.5}$) tons per year emission rates in the MAERT shall be demonstrated by calculating rolling 12-month annual emissions from emission factors (pounds per million British thermal units (lb/MMBtu), higher heating value (HHV))

obtained from the results of the sampling required by Special Condition No. 16 and the monthly total heat input (MMBtu, HHV) from natural gas fuel.

20. If any emission monitor fails to meet specified performance, it shall be repaired or replaced as soon as reasonably possible, but no later than seven days after it was first detected by any employee at the facility unless written permission is obtained from the TCEQ Midland Regional Office which allows for a longer repair or replacement time. The holder of this permit shall develop an operation and maintenance program (including stocking necessary spare parts) to ensure that the continuous monitors are available as required.

Recordkeeping Requirements

21. The following records shall be kept at the plant for the life of the permit. All records required in this permit shall be made available at the request of personnel from the TCEQ, EPA, or any air pollution control agency with jurisdiction.
 - A. A copy of this permit.
 - B. Permit application dated May 13, 2013 and subsequent representations submitted to the TCEQ.
 - C. A complete copy of the testing reports and records of the initial performance testing completed pursuant to Special Condition No. 16 to demonstrate initial compliance.
 - D. Stack sampling results or other air emissions testing (other than CEMS data) that may be conducted on units authorized under this permit after the date of issuance of this permit.
22. The following records, written or electronic, shall be maintained at the plant site on a five-year rolling basis and be made readily available at the request of personnel from the TCEQ or any air pollution control agency with jurisdiction:
 - A. Records to show compliance with the applicable requirements specified in Special Condition No. 4.
 - B. Records to show compliance with the applicable requirements specified in Special Condition No. 5
 - C. Records of natural gas fuel usage and the sulfur content according to the fuel suppliers for the CTGs to show compliance with Special Condition Nos. 7 and 18.
 - D. Records of visible emission observations and, if required, opacity readings as specified in Special Condition No. 10.
 - E. Records of NO_x, CO, and O₂ CEMS emissions data to demonstrate compliance with the emission rates listed in the MAERT.
 - F. Records of the hours of operation and sulfur content of diesel fuel fired in the firewater pump engine, pursuant to Special Condition Nos. 6C and 7C.
 - G. Records of each turbine's operating hours on a monthly and rolling 12-month basis to show compliance with Special Condition No. 6D.

- H. Records of dates and times of CTG MSS to demonstrate compliance with Special Condition No. 13.
- I. Records of monitored or calculated MSS emissions to demonstrate compliance with Special Condition No. 14.
- J. Records of the hours of peak firing operations and NO_x CEMS emissions data to show compliance with Special Condition No. 9. **(01/17)**
- K. Files of all CEMS quality assurance measures, calibration checks, adjustments and maintenance performed on these systems to demonstrate compliance with Special Condition Nos. 17 and 20.

Reporting

- 23. The holder of this permit shall submit to the TCEQ Midland Regional Office and the Air Enforcement Branch of the EPA in Dallas semiannual reports as described in 40 CFR § 60.7. Such reports are required for each emission unit which is required to be continuously monitored pursuant to this permit.

Date: January 31, 2017

Attachment A

Permit Nos. 110423 and PSDTX1366

Inherently Low Emitting (ILE) Planned Maintenance Activities					
Planned Maintenance Activity	Emissions				
	VOC	NO _x	CO	PM	SO ₂
Water-based washing	X				
Miscellaneous particulate filter maintenance ¹				X	
Degassing for maintenance of storage vessels storing material with vapor pressure <0.5 psia	X				
Degassing for maintenance of storage vessels storing gasoline or other material with vapor pressure > 0.5 psia that does not require clearing of the vessels to allow for entry of personnel	X				
Management of sludge from pits, ponds, sumps, and water conveyances ²	X				
Organic chemical usage	X				
Inspection, repair, replacement, adjusting, testing, and calibration of analytical equipment, process instruments including sight glasses, meters, gauges, CEMS.	X	X	X		X
Turbine washing - unit offline ³				X	

Date: August 1, 2014

¹ Includes, but is not limited to process-related building air filters, and combustion turbine air intake filters.

² Includes, but is not limited to, management by vacuum truck/dewatering of materials in open pits and ponds, and sumps, tanks and other closed or open vessels. Materials managed include water and sludge mixtures containing miscellaneous VOCs such as diesel, lube oil, and other waste oils.

³ Involves use of water only.

Attachment B

Permit Nos. 110423 and PSDTX1366

Non-ILE Planned Maintenance Activities							
Planned Maintenance Activity	EPN	Emissions					
		VOC	NO _x	CO	PM	SO ₂	H ₂ SO ₄
Combustion optimization ⁴	CT-1 CT-2	X	X	X	X	X	X

Date: August 1, 2014

⁴ Includes, but is not limited to, (i) leak and operability checks (e.g., turbine over-speed tests, troubleshooting), (ii) balancing, and (iii) tuning activities that occur during seasonal tuning or after the completion of initial construction, a combustor change-out, a major repair, maintenance to a combustor, or other similar circumstances.

Emission Sources - Maximum Allowable Emission Rates

Permit Number 110423 and PSDTX1366

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (5)	
			lb/hour	TPY (4)
CT-1	Unit 1 - GE7FA.03	NO _x (6)	62.34	52.68
		NO _x (Peak Firing) (6) (7)	100.00	
		NO _x (MSS) (6)	140.00	
		CO (6)	37.95	132.27
		CO (MSS) (6)	477.60	
		VOC	13.28	16.24
		VOC (MSS)	36.00	
		PM	25.15	22.98
		PM ₁₀	25.15	22.98
		PM _{2.5}	25.15	22.98
		SO ₂	27.40	20.57
		H ₂ SO ₄	12.59	9.45
CT-2	Unit 2 - GE7FA.03	NO _x (6)	62.34	52.68
		NO _x (Peak Firing) (6) (7)	100.00	
		NO _x (MSS) (6)	140.00	
		CO (6)	37.95	132.27
		CO (MSS) (6)	477.60	
		VOC	13.28	16.24
		VOC (MSS)	36.00	
		PM	25.15	22.98
		PM ₁₀	25.15	22.98
		PM _{2.5}	25.15	22.98
		SO ₂	27.40	20.57

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (5)	
			lb/hour	TPY (4)
		H ₂ SO ₄	12.59	9.45
CTLV1	Combustion Turbine 1 Lube Oil Vent	VOC	0.09	0.40
		PM	0.09	0.40
		PM ₁₀	0.09	0.40
		PM _{2.5}	0.09	0.40
CTLV2	Combustion Turbine 2 Lube Oil Vent	VOC	0.09	0.40
		PM	0.09	0.40
		PM ₁₀	0.09	0.40
		PM _{2.5}	0.09	0.40
FWP	Firewater Pump (6) 121 hp diesel fired	NO _x	0.75	0.04
		CO	0.27	0.01
		VOC	0.03	0.01
		PM	0.02	0.01
		PM ₁₀	0.02	0.01
		PM _{2.5}	0.02	0.01
NGFUG	Natural Gas Fugitives (8)	VOC	0.01	0.02
MSSFUG	MSS Fugitives (8)	NO _x	<0.01	<0.1
		CO	<0.01	<0.01
		VOC	0.07	<0.01
		PM	0.09	0.02
		PM ₁₀	0.09	0.02
		PM _{2.5}	0.09	0.02

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3) NO_x - total oxides of nitrogen
CO - carbon monoxide
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented

Emission Sources - Maximum Allowable Emission Rates

- PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
- PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter
- SO₂ - sulfur dioxide
- H₂SO₄ - sulfuric acid
- MSS - maintenance, startup, and shutdown

- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Planned MSS for all pollutants are authorized even if not specifically identified as MSS.
- (6) For each pollutant whose emissions during planned MSS activities are measured using a CEMS, the MSS lb/hr limits apply only during each clock hour that includes one or more minutes of MSS activities. During all other clock hours, the lb/hr limits for normal operations or peak firing operations apply, as applicable, subject to the qualifying requirements in Special Condition No. 9.
- (7) This hourly emission rate is authorized only during periods of peak firing operation of the GE model turbine, when turbine operation is above base load, subject to the qualifying requirements in Special Condition No. 9.
- (8) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

Date: January 31, 2017



Texas Commission on Environmental Quality Air Quality Permit

A Permit Is Hereby Issued To
Ector County Energy Center LLC
Authorizing the Construction and Operation of
Ector County Energy Center
Located at Goldsmith, Ector County, Texas
Latitude 32° 4' 10" Longitude -102° 35' 8"

Permit: GHGPSDTX49

Issuance Date: August 24, 2016

A handwritten signature in black ink, appearing to read "R. A. Hyle".

For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)]¹
2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1) the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of \$5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]
8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)]¹
9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC §101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC § 116.115(b)(2)(G)]
10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) §382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit.¹

¹ Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

US EPA ARCHIVE DOCUMENT

**PREVENTION OF SIGNIFICANT DETERIORATION PERMIT
FOR GREENHOUSE GAS EMISSIONS
ISSUED PURSUANT TO THE REQUIREMENTS AT 40 CFR § 52.21**

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6

PSD PERMIT NUMBER: PSD-TX-1366-GHG

PERMITTEE: Ector County Energy Center LLC
1 South Wacker Dr., Suite 1900
Chicago, IL 60606


FACILITY NAME: Ector County Energy Center

FACILITY LOCATION: SW 3601 Road
Goldsmith, TX 79741

Pursuant to the provisions of the Clean Air Act (CAA), Subchapter I, Part C (42 U.S.C. Section 7470, *et. Seq.*), and the Code of Federal Regulations (CFR) Title 40, Section 52.21, and the Federal Implementation Plan at 40 CFR § 52.2305 (effective May 1, 2011 and published at 76 FR 25178), the U.S. Environmental Protection Agency, Region 6 is issuing a *Prevention of Significant Deterioration* (PSD) permit to Ector County Energy Center LLC (ECEC) for Greenhouse Gas (GHG) emissions. The Permit applies to the addition of two natural gas-fired simple-cycle combustion turbines, natural gas-fired dew point heater, firewater pump engine, circuit breakers and fugitive emissions at a new facility located northeast of Goldsmith, Texas.

ECEC is authorized to construct two new natural gas-fired simple-cycle combustion turbines, natural gas-fired dew point heater, firewater pump engine, circuit breakers and fugitive emissions as described herein, in accordance with the permit application (and plans submitted with the permit application), the federal PSD regulations at 40 CFR § 52.21, and other terms and conditions set forth in this PSD permit in conjunction with the corresponding Texas Commission on Environmental Quality (TCEQ) permit No. PSDTX1366. Failure to comply with any condition or term set forth in this PSD Permit may result in enforcement action pursuant to Section 113 of the Clean Air Act (CAA). This PSD Permit does not relieve Invenergy of the responsibility to comply with any other applicable provisions of the CAA (including applicable implementing regulations in 40 CFR Parts 51, 52, 60, 61, 72 through 75, and 98) or other federal and state requirements (including the state PSD program that remains under approval at 40 CFR § 52.2303).

In accordance with 40 CFR §124.15(b), this PSD Permit becomes effective 30 days after the service of notice of this final decision unless review is requested on the permit pursuant to 40 CFR §124.19.


Wren Stenger, Director
Multimedia Planning and Permitting Division

8/1/14
Date

**Ector County Energy Center (PSD-TX-1366-GHG)
Prevention of Significant Deterioration Permit
For Greenhouse Gas Emissions
Final Permit Conditions**

PROJECT DESCRIPTION

ECEC is proposing to add two (2) new gas-fired simple-cycle combustion turbines of 165 MW electric generating capability located near Goldsmith, Texas. The primary objective of the proposed project is to provide peaking capability at a new electric generating station which will be used during periods of increased demand for electricity. Due to the fluctuations in power requirements, the two new natural gas-fired simple-cycle turbines (165 MW nominal net each) are proposed to provide a fast ramp-up for electricity generation during peak electricity demand periods. In addition, the project also includes the installation of a dew-point heater, firewater pump engine, circuit breakers and fugitive emissions associated with the new facility.

EQUIPMENT LIST

The following devices are subject to this GHG PSD permit.

FIN	EPN	Description
CTG-1 CTG-2	CTG-1 CTG-2	Two 165 (nominal net) MW Natural Gas-fired Simple-Cycle GE 7FA.03 Combustion Turbine Generator (CTG) with a maximum net heat input rate of 11,707 Btu/kWh (HHV) at base load ISO conditions.
DPT HTR-3	DPT HTR-3	Natural Gas-Fired Dew-Point Heater with a maximum heat input of 9MMBtu/hr.
FWP-4	FWP-4	Diesel fire pump (250 hp, not to exceed) engine. In addition to emergency fire suppression activities, the unit is limited to 100 hrs per 12-month rolling basis for maintenance and testing.
SF-6	SF-6	Fugitive SF ₆ Circuit Breaker Emissions
NG-FUG	NG-FUG	Fugitive emissions from various piping components

I. GENERAL PERMIT CONDITIONS

A. PERMIT EXPIRATION

As provided in 40 CFR §52.21(r), this PSD Permit shall become invalid if construction:

1. is not commenced (as defined in 40 CFR §52.21(b)(9)) within 18 months after the approval takes effect; or
2. is discontinued for a period of 18 months or more; or
3. is not completed within a reasonable time.

Pursuant to 40 CFR §52.21(r), EPA may extend the 18-month period upon a written satisfactory showing that an extension is justified.

B. PERMIT NOTIFICATION REQUIREMENTS

Permittee shall notify EPA Region 6 in writing or by electronic mail of the:

1. date construction is commenced, postmarked within 30 days of such date;
2. actual date of initial startup, as defined in 40 CFR § 60.2, postmarked within 15 days of such date; and
3. date upon which initial performance tests will commence, in accordance with the provisions of Section V, postmarked not less than 30 days prior to such date. Notification may be provided with the submittal of the performance test protocol required pursuant to Condition V.B.

C. FACILITY OPERATION

At all times, including periods of startup, shutdown, and maintenance, Permittee shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the EPA, which may include, but is not limited to, monitoring results, review of operating maintenance procedures and inspection of the facility.

D. MALFUNCTION REPORTING

1. Permittee shall notify EPA by mail, or other means identified by EPA, within 48 hours following the discovery of any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in GHG emissions above the allowable emission limits stated in Section II and III of this permit.

2. Within 10 days of the discovery of any GHG emissions above the allowable emission limits resulting from malfunctions as described in I.D.1., Permittee shall provide a written supplement to the initial notification that includes a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section II and III, and the methods utilized to mitigate emissions and restore normal operations.
3. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or any law or regulation such malfunction may cause.

E. RIGHT OF ENTRY

EPA authorized representatives, upon the presentation of credentials, shall be permitted:

1. to enter the premises where the facility is located or where any records are required to be kept under the terms and conditions of this PSD Permit;
2. during normal business hours, to have access to and to copy any records required to be kept under the terms and conditions of this PSD Permit;
3. to inspect any equipment, operation, or method subject to requirements in this PSD Permit; and,
4. to sample materials and emissions from the source(s).

F. TRANSFER OF OWNERSHIP

In the event of any changes in control or ownership of the facilities to be constructed, this PSD Permit shall be binding on all subsequent owners and operators. Permittee shall notify the succeeding owner and operator of the existence of the PSD Permit and its conditions by letter; a copy of the letter shall be forwarded to EPA Region 6 within thirty days of the letter signature.

G. SEVERABILITY

The provisions of this PSD Permit are severable, and, if any provision of the PSD Permit is held invalid, the remainder of this PSD Permit shall not be affected.

H. ADHERENCE TO APPLICATION AND COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS

Permittee shall construct this project in compliance with this PSD Permit, the application on which this permit is based, the TCEQ PSD Permit PSD-TX-1366 (when issued) and all other applicable federal, state, and local air quality regulations. This PSD permit does not release the Permittee from any liability for compliance with other applicable federal, state and local environmental laws and regulations, including the Clean Air Act.

I. ACRONYMS AND ABBREVIATIONS

AVO	Auditory, Visual, and Olfactory
BACT	Best Available Control Technology
CAA	Clean Air Act
CCS	Carbon Capture and Sequestration
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CH ₄	Methane
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry Standard Cubic Foot
EF	Emission Factor
EPN	Emission Point Number
FIN	Facility Identification Number
FR	Federal Register
GCV	Gross Calorific Value
GHG	Greenhouse Gas
gr	Grains
GWP	Global Warming Potential
HHV	High Heating Value
hr	Hour
lb	Pound
LDAR	Leak Detection and Repair
MMBtu	Million British Thermal Units
MSS	Maintenance, Start-up and Shutdown
N ₂ O	Nitrous Oxides
NSPS	New Source Performance Standards
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance and/or Quality Control
SCFH	Standard Cubic Feet per Hour
SCR	Selective Catalytic Reduction
SF ₆	Sulfur hexafluoride
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TPY	Tons per Year
USC	United States Code

II. Annual Emission Limits

Annual emissions, in tons per year (TPY) on a 12-month, rolling total, shall not exceed the following for the General Electric 7FA combustion turbine model:

Table 1. Annual Emission Limit – GE 7FA.03 CT

FIN	EPN	Description	GHG Mass Basis		TPY CO ₂ e ^{1,2}	BACT Requirements
				TPY		
CTG-1 CTG-2	CTG-1 CTG-2	Natural Gas Fired-Simple Cycle Turbine	CO ₂	239,420 ³	239,649 ³	<ul style="list-style-type: none"> - BACT limit of 1,393 lb CO₂/MW-hr (gross) on a 2,500 operational hour rolling basis, rolling daily, each turbine. -Not to exceed 2,500 hours of operation on a 12-month rolling basis per turbine. -See permit condition III.A.2.a. through d.
			CH ₄	4.4 ³		
			N ₂ O	0.4 ³		
CTG-1 CTG-2	CTG-1 CTG-2	Natural Gas Fired-Simple Cycle Turbine – MSS ⁴	CO ₂	10,500 ⁴	10,502 ⁴	<ul style="list-style-type: none"> -Each event limited to 21 tons CO₂e. -Limit of 500 events on a 12-month rolling total. -Maximum heat input during startup limited to 1,320 MMBtu/hr. -See Special Condition III.A.4.c. through e.
			CH ₄	0.06 ⁴		
			N ₂ O	No Numerical Limit Established ⁵		
DPT HTR-3	DPT HTR-3	Natural Gas- Fired Dew- Point Heater	CO ₂	2,630	2,631	<ul style="list-style-type: none"> -Not to exceed 5,000 hours per year on a 12-month rolling basis
			CH ₄	0.05		
			N ₂ O	No Numerical Limit Established ⁵		
FWP-4	FWP-4	Firewater Pump Engine	CO ₂	5.44	5	<ul style="list-style-type: none"> - Not to exceed 100 hours of non-emergency operation on a 12-month rolling basis - Use of Good Combustion Practices. See permit condition III.C.
			CH ₄	No Numerical Limit Established ⁵		
			N ₂ O	No Numerical Limit Established ⁵		

FIN	EPN	Description	GHG Mass Basis		TPY CO ₂ e ^{1,2}	BACT Requirements
				TPY		
SF6FUG	SF6-FUG	Fugitive SF ₆ Circuit Breaker Emissions	SF ₆	No Numerical Limit Established ⁶	No Numerical Limit Established ⁶	Work Practices. See permit condition III.D.
NGFUG	NG-FUG	Components Fugitive Leak Emissions	CH ₄	No Numerical Limit Established ⁷	No Numerical Limit Established ⁷	Implementation of AVO Program. See permit condition III.E.
Totals⁸			CO ₂	502,475	503,204 CO₂e	
			CH ₄	19		
			N ₂ O	0.8		
			SF ₆	.0006		

1. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions from the facility during all operations and include MSS activities.
2. Global Warming Potentials (GWP): CO₂=1, CH₄ = 25, N₂O =298, SF₆=22,800
3. The GHG Mass Basis TPY limit and the CO₂e TPY limit for the natural gas fired simple cycle turbines applies to each turbine and is not a combined limit.
4. The GHG Mass Basis TPY limit and the CO₂e TPY limit for the natural gas fired simple cycle turbines – MSS includes emissions associated with gaseous fuel venting of the fuel lines during a turbine shutdown or maintenance and applies to each turbine and is not a combined limit.
5. These values indicated as “No Numerical Limit Established” are less than 0.01 TPY with appropriate rounding. The emission limit will be a design/work practice standard as specified in the permit.
6. Fugitive Leak Emissions from SF6-FUG are estimated to be 0.0006 TPY SF₆ and 13.7 TPY CO₂e. In lieu of an emission limit, the emissions will be limited by implementing a design/work practice standard as specified in the permit.
7. Fugitive Leak Emissions from NG-FUG are estimated to be 0.134TPY CO₂, 10.08 TPY CH₄, and 252.25 TPY CO₂e. In lieu of an emission limit, the emissions will be limited by implementing a design/work practice standard as specified in the permit.
8. Total emissions include the PTE for fugitive emissions. Totals are given for informational purposes only and do not constitute emission limits.

III. SPECIAL PERMIT CONDITIONS

A. Requirements for the Natural Gas Fired-Simple Cycle Turbines (EPNs CTG-1 and CTG-2)

1. Fuel Specifications: The fuel for each turbine shall be pipeline quality natural gas.

2. Turbine BACT Requirements:

- a. The BACT limit of 1,393 lbs of CO₂/MW-hr gross output applies to each turbine. The Permittee shall determine the hourly CO₂ emission rate from 40 CFR Part 75, Appendix G, using F_c factors updated monthly from fuel analysis. The Permittee shall calculate each day a combustion turbine operates, CO₂ emissions over the rolling 2,500 hours of operation basis divided by gross electrical output over the same period for comparison to the limit for each combustion turbine.
- b. The Permittee shall calculate, on a daily basis, the amount of CO₂e emitted from each turbine in tons per year based on the procedures and Global Warming Potentials (GWP) contained in the Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1, as published on November 29, 2013 (74 FR 71904) for CH₄ and N₂O. Compliance shall be based on a 12-month rolling basis.
- c. The annual quantity of fuel used by each turbine (EPNs CTG-1 and GTG-2) shall not exceed 4,028,700 MMBtu (HHV) in any 2,500 operational hour rolling period. The Permittee shall calculate each day a combustion turbine operates, the quantity of fuel used by each turbine over the previous 12-month basis by multiplying the gross calorific value of the fuel combusted by volume of fuel metered for comparison to the annual fuel limit for each combustion turbine.
- d. Each turbine (EPNs CTG-1 and CTG-2) is limited to 2,500 operational hours on a 12-month rolling basis which shall not include periods of startup and shutdown.

3. Combustion Turbine Work Practice and Operational Requirements:

- a. Permittee shall determine the CO₂ hourly emission rate and CO₂ mass emissions for both combustion turbines based on equation G-4 of 40 CFR Part 75 and the average heat rate (gross) on an hourly basis based on the heat input calculation procedures contained in 40 CFR Part 75, Appendix F, equation F-20.
- b. Permittee shall calculate the CH₄ and N₂O emissions on a 12-month rolling average. Permittee shall determine compliance with the CH₄ and N₂O emissions limits contained in Section II using the default CH₄ and N₂O emission factors contained in Table C-2 of 40 CFR Part 98 and the measured actual hourly heat input (HHV).

- c. Permittee shall calculate the CO_{2e} emissions on a 12-month rolling total, based on the procedures and Global Warming Potentials (GWP) contained in Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1.
- d. Permittee shall install, calibrate, and operate a fuel flow meter and perform periodic scheduled GCV fuel sampling for the combustion turbines and shall meet the applicable requirements, including certification testing, of 40 CFR Part 75, Appendix D and 40 CFR Part 60 to be used in conjunction with the F_c factor based on the procedures to calculate the CO₂ emission rate in 40 CFR Part 75, Appendix F.
- e. The flow rate of the fuel combusted in combustion turbine emission units, identified as CTG-1 and CTG-2, shall be measured and recorded using an inline flow meter and automatically record the data with a data acquisition and handling system.
- f. Permittee shall ensure compliance with the specifications and test procedures for fuel flow meter and/or CO₂ emission monitoring system at stationary sources, 40 CFR Part 75 and 40 CFR Part 60.
- g. Permittee shall meet the appropriate quality assurance requirements specified in 40 CFR Part 75, Appendix D and F and 40 CFR Part 60 for the fuel flow meter and/or CO₂ emission monitoring system.
- h. Permittee shall measure and record the gross energy output (MWh (gross)) on an hourly basis.
- i. On or before the date of initial performance test required by 40 CFR 60.8, and thereafter, Permittee shall install, and continuously operate, and maintain the combustion turbines so emissions are at or below the emissions limits specified in this permit.
- j. On or after initial performance testing, Permittee shall use the combustion turbines, plant-wide energy efficiency processes, and work practices and designs as represented in the permit application.
- k. As an alternative to Special Condition III.A.3.a, the Permittee may install a CO₂ CEMS and volumetric stack gas flow monitoring system with an automated data acquisition and handling system for measuring and recording CO₂ emissions discharged to the atmosphere.

4. Startup and Shutdown Requirements for Turbines:

- a. Permittee shall minimize emissions during startup and shutdown activities by operating and maintaining the facility and associated air pollution control equipment in accordance with good air pollution control practices, safe operating practices, and protection of the facility.
- b. Emissions during startup and shutdown activities shall be minimized by limiting the duration of operation in startup and shutdown mode as follows:
 - i. A Startup of each turbine is defined as the period that begins when fuel

flow is initiated in the combustion turbine as indicated by flame detection and ends when the normal operating low-NO_x combustion mode is achieved (which equates to approximately 60% combustion turbine load).

- ii. A shutdown of each turbine is defined as the time period that begins when the combustion turbine drops out of the normal operating low-NO_x combustion mode (which equates to approximately 60% combustion turbine load) following an instruction to shut down, and ends when flame is no longer detected in the combustion turbine combustors.
- c. Emissions during each startup and shutdown activity as well as annual startup and shutdown activities shall be minimized by limiting the duration of operation in startup and shutdown mode as follows:
 - i. Startups and shutdowns are limited to no more than 60 minutes per event.
 - ii. No more than 500 startup and shutdown events per turbine on a 12-month rolling basis.
- d. Start up and shutdown emissions shall not exceed the BACT emission of 21 tons CO₂e per event, and an annual emission limit of 10,502 tons CO₂e/year.
- e. The maximum heat input during startup shall be limited to 1,320 MMBtu/hr.
- f. The Permittee must record the time, date, fuel heat input (HHV) in MMBtu/hr, and duration of each startup and shutdown event in order to calculate the total CO₂e emissions. The records must include hourly CO₂ emission levels as measured by the fuel flow meter and/or O₂ emission monitor (or CO₂ CEMS with volumetric stack gas flowrate) and the calculations based on the actual heat input for the CO₂, CO₂e, O₂, N₂O, and CH₄ emissions during each startup and shutdown event based on the equations represented in the permit application. These records must be kept for five years.
- g. The BACT emission limitations in Special Condition III.A.2.a. does not include periods of startup and shutdown.

B. Requirements for the Natural Gas-Fired Dew Point Heater (EPN: DPT HTR-3)

1. Fuel Specification: The fuel for the gas-fired dew point heater will be natural gas.

2. Natural Gas-Fired Dew Point Heater and Operational Requirements:

- a. Permittee shall calculate, on a monthly basis, the amount of CO₂ emitted from combustion in tons/yr using equation C-2a in 40 CFR Part 98 Subpart C, converted to short tons. Compliance shall be based on a 12-month rolling basis.
- b. Permittee shall calculate the CH₄ and N₂O emissions on a 12-month rolling basis. Permittee shall determine compliance with the CH₄ and N₂O emissions limits contained in this section using the default CH₄ and N₂O emission factors contained in Table C-2 and equation C-9a of 40 CFR Part 98 and the measured

actual heat input (HHV), converted to short tons.

- c. Permittee shall calculate the CO₂e emissions on a 12-month rolling basis, based on the procedures and Global Warming Potentials (GWP) contained in Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1 as published on November 29, 2013 (74 FR 71904).
- d. The Permittee shall measure and record the fuel flow rate using an operational non-resettable elapsed flow meter or by recording the flow rate data in an electronic format with individual flow measurements being taken no less frequently than once every 15 minutes. Electronic data may be reduced to hourly averages for recordkeeping purposes.
- e. Permittee shall calibrate and perform a preventative maintenance check of the fuel gas flow meters and document annually.
- f. To maintain the EPN DPT HTR-3 operating at a high efficiency, the Permittee shall perform annual tune-ups and meet the associated requirements as follows (if the unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup) in accordance with manufacturer's specifications:
 - a. Inspect the burner, and clean or replace any components of the burner as necessary (Permittee may delay the burner inspection until the next scheduled unit shutdown, but must inspect each burner at least once every 18 months).
 - b. Inspect the flame pattern, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications.
 - c. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.
- g. The gas-fired dew point heater shall not exceed 5,000 hours on a 12-month rolling basis and shall be operated and maintained in accordance with the manufacturer's recommendations.
- h. The Permittee shall install and maintain the gas-fired dew point heater to ensure a minimum thermal efficiency of 75%.
- i. The gas-fired dew point heater will be continuously monitored for exhaust temperature, input fuel temperature, and stack oxygen. Thermal efficiency for the heater will be calculated monthly from these parameters using equation G-1 from American Petroleum Institute (API) methods 560 (4th ed.) Annex G.

C. Requirements for the Firewater Pump Engine (EPN: FWP-4)

1. **Fuel Specification:** The fuel for the firewater pump is limited to diesel fuel. Fuel used in the engines will meet the requirements of 40 CFR 80.510(b) regarding sulfur content (15 ppmw maximum) and a minimum Cetane Index of 40 or maximum aromatic content of 35% by volume.

2. Firewater Pump Work Practice and Operational Requirements:

- a. The firewater pump shall not exceed 100 hours of non-emergency operation on a 12-month rolling basis and shall be operated and maintained in accordance with the manufacturer's recommendations.
- b. The Permittee shall install and maintain an operational non-resettable elapse time meter for the firewater pump.
- c. The engine shall meet the requirements of 40 CFR Part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Combustion Engines.
- d. The emergency firewater pump engine purchased will be certified to meet the applicable emission standards of 40 CFR 60.4205(c).
- e. The emission limit in Table 1 is based on each emergency generator engine operating 100 hours a year for maintenance and testing.
- f. Compliance with the Annual Emission Limit shall be demonstrated on a 12-month total, rolling monthly, calculated in accordance with 40 CFR §98.33(a)(1)(i).

D. Requirements for the Fugitive SF₆ Circuit Breakers (EPN: SF6-FUG)

Fugitive SF₆ Circuit Breaker Work Practice and Operation Requirements:

- a. For EPN SF6-FUG, SF₆ emissions shall be calculated annually (calendar year) in accordance with the mass balance approach provided in equation DD-1 of the Mandatory Greenhouse Gas Reporting Rule for Electrical Transmission and Distribution Equipment Use, 40 CFR Part 98, Subpart DD. The total SF₆ inventory of the circuit breakers shall not exceed 240 lb with leak detection.
- b. The circuit breakers shall be equipped with a low pressure alarm and low pressure lockout. The SF₆ leak detection system shall be able to detect a leak of at least 1 lb per year.

E. Requirements for the Components Fugitive Leaks (EPN: NG-FUG)

Components Fugitive Leaks Work Practice and Operation Requirements:

- a. The Permittee shall implement an auditory/visual/olfactory (AVO) monitoring program for detecting leaking in natural gas piping components, including valves and flanges.
- c. AVO monitoring shall be performed daily.
- d. Any component found to be leaking during AVO monitoring shall be repaired within 15 days.
- e. Records of the annual and daily AVO monitoring results shall be maintained on

site.

IV. Recordkeeping and Reporting

A. Records

1. In order to demonstrate compliance with the GHG emission limits in Table 1, the Permittee shall monitor the following parameters and summarize the data as specified in Special Conditions III. A, B, C, and D.
 - a. Operating hours for all air emission sources authorized by this permit;
 - b. Records of the fuel consumed by each source authorized by this permit;
 - c. Records of run time meter for the fire pump engine;
 - d. The fuel usage for all turbines, and engine, using continuous fuel flow monitors (a group of equipment can utilize a common fuel flow meter, as long as actual fuel usage is allocated to the individual equipment based upon actual operating hours and maximum firing rate). A computer that collects, sums, and stores electronic data from continuous fuel flow meters is an acceptable totalizer;
 - e. Semi-annual fuel sampling for natural gas or other frequencies as allowed by 40 CFR §98.34(b)(3).
2. Permittee shall maintain records of the following for GHG emissions from the Equipment List: all records or reports pertaining to significant maintenance performed; duration of startup, shutdown; the initial startup period for the emission units; malfunctions; all records relating to performance tests, calibrations, checks, and monitoring of combustion equipment; duration of an inoperative monitoring device and emission units with the required corresponding emission data; and all other information required by this permit recorded in a permanent form suitable for inspection. These records may be maintained in electronic databases. The records shall be retained for not less than five years following the date of such measurements, maintenance, reports, and/or records.
3. Permittee shall maintain records of all GHG emission units and CO₂ emission certification tests and monitoring and compliance information required by this permit.
4. Permittee shall maintain reports and documents pertaining to the maintenance performed and compliance with the Monitoring and Quality Assurance and Quality Control (QA/QC) procedures outlined in 40 CFR 98.304 for SF₆ circuit breakers.
5. Permittee shall maintain records and submit a written report of all excess emissions to EPA semi-annually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator or authorized representative, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. The report is due on the 30th day following the end of each semi-annual period and shall include the following:

- a. Time intervals, date and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
 - b. Time and date of each period during which the monitoring equipment was inoperative (monitoring down-time);
 - c. If there has been no excess emissions or monitoring downtime during the reporting period, a statement to that effect;
 - d. Any failure to conduct any required source testing, monitoring, or other compliance activities; and
 - e. Any violation of limitations on operation, including but not limited to restrictions on hours of operation of the emergency generator or fire pump.
- 6. Excess emissions shall be defined as any period in which the facility emissions exceed a maximum emission limit set forth in this permit, a malfunction occurs if an emission unit listed in the Equipment List that results in excess GHG emissions, or any other unauthorized GHG emissions occur.
 - 7. Excess emissions indicated by GHG emission source certification testing or compliance monitoring shall be considered violations of the applicable emission limit for the purpose of this permit.
 - 8. Instruments and monitoring systems required by this PSD permit shall have a 95% on-stream time on an annual basis.
 - 9. All records required by this PSD Permit shall be retained for not less than 5 years following the date of such measurements, maintenance, and reporting.

V. SHAKEDOWN PERIODS

The combustion turbine emission limits and requirements in conditions II., III.A.1., and III.B. shall not apply during combustion shakedown periods. Shakedown is defined as the period beginning with initial startup and ending no later than initial performance testing, during which the Permittee conducts operational and contractual testing and tuning to ensure the safe, efficient and reliable operation of the plant. The shakedown period shall not exceed the time period for performance testing as specified in 40 CFR § 60.8. The requirements of special condition I.C. of this permit shall apply at all times.

VI. Initial Performance Testing Requirements:

- A. The Permittee shall perform stack sampling and other testing to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the two turbines (EPN CTG-1 and CTG-2) and to determine the initial compliance with the CO₂ emission limits established in this permit. Sampling shall be conducted in accordance with 40 CFR § 60.8 and EPA Method 3a or 3b for the concentration of CO₂.

The stack test shall consist of three separate runs at or above 90% of maximum load operations and three separate runs below 70% but above 50% load operation. Stack gas flow rate measurements, as well as moisture measurements (if needed), shall be made during each test run. The electrical generation (gross megawatts) during each test run shall also be recorded. The CO₂ emission rate shall be calculated as defined below and recorded for each test run in lb CO₂/MWh (gross) and lb CO₂/hr. The arithmetic mean for the three test runs at or above 90% of maximum load operation and the arithmetic mean for the three test runs below 70% but above 50% load operation shall also be calculated and recorded.

1. The CO₂ hourly average emission rate determined by the three runs at or above 90% of maximum load multiplied by 2,500 hours, for each turbine.
 2. If the above calculated CO₂ emission total does not exceed the (TPY) specified on Table 1, no compliance strategy needs to be developed.
 3. If the above calculated CO₂ emission total exceeds the (TPY) specified in Table 1, the facility shall:
 - a. Document the exceedance in the test report; and
 - b. Explain within the report how the facility will assure compliance with the CO₂ emission limit listed in Table 1.
- B.** Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility, performance tests(s) shall be conducted and a written report of the performance testing results furnished to the EPA. Additional sampling may be required by TCEQ or EPA.
- C.** Permittee shall submit a performance test protocol to EPA no later than 30 days prior to the test to allow review of the test plan and to arrange for an observer to be present at the test. The performance test shall be conducted in accordance with the submitted protocol, and any changes required by EPA.
- D.** Performance tests shall be conducted under such conditions to ensure representative performance of the affected facility. The Permittee shall make available to the EPA such records as may be necessary to determine the conditions of the performance tests.
- E.** The Permittee shall provide the EPA at least 30 days' prior notice of any performance test, except as specified under other subparts, to afford the EPA the opportunity to have an observer present and/or to attend a pre-test meeting. If there is a delay in the original test date, the facility must provide at least 7 days prior notice of the rescheduled date of the performance test unless EPA approves an earlier rescheduled date due to unforeseen events, such as delays that are caused by weather.
- F.** The Permittee shall provide, or cause to be provided, performance testing facilities as follows:
1. Sampling ports adequate for test methods applicable to this facility,
 2. Safe sampling platform(s),
 3. Safe access to sampling platform(s), and

4. Utilities for sampling and testing equipment.

- G. Emission testing for the emergency engine (EPN: FWP-4), shall be performed every five years, plus or minus 6 months, from when the previous performance test was performed to verify continued performance at permitted emission limits.

VII. Agency Notifications

Permittee shall submit GHG permit applications, permit amendments, and other applicable permit information to:

Multimedia Planning and Permitting Division
EPA Region 6
1445 Ross Avenue (6 PD-R)
Dallas, TX 75202
Email: Group R6AirPermits@EPA.gov

Permittee shall submit a copy of all compliance and enforcement correspondence as required by this Approval to Construct to:

Compliance Assurance and Enforcement Division
EPA Region 6
1445 Ross Avenue (6EN)
Dallas, TX 75202

Attachment A
Voluntary Update
Permit No. GHGPSDTX49

The following permit requirements are being changed in response to a request by letter received from Ector County Energy Center on January 22, 2016. These requirements replace those for FINs/EPNs CTG-1 and CTG-2 in permit PSD-TX-1366-GHG dated August 1, 2014.

II. Annual Emission Limits

Annual emission, in tons per year (TPY) on a 12-month, rolling total, shall not exceed the following for the General Electric 7FA combustion turbine model:

Table 1. Annual Emission Limit – GE 7FA.03 CT

FIN	EPN	Description	GHG Mass Basis		TPY CO ₂ e ^{1,2}	BACT Requirements
				TPY		
CTG-1 CTG-2	CTG-1 CTG-2	Natural Gas Fired-Simple Cycle Turbine – MSS ⁴	CO ₂	10,500 ⁴	10,502 ⁴	-Each combined startup and shutdown event is limited to 21 tons CO ₂ e. -Startup and shutdown activities are limited to 500 total hours per unit, on a 12 month rolling total. - Maximum heat input during startup limited to 350 MMBtu. - See Special Condition No. III.A.4.c through e.
			CH ₄	0.06 ⁴		
			N ₂ O	No Numerical Limit Established ⁵		
Totals ⁸			CO ₂	502,475	503,204 CO ₂ e	
			CH ₄	19		
			N ₂ O	0.8		
			SF ₆	0.0006		

1. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions from the facility during all operations and include MSS activities.
2. Global Warming Potentials (GWP): CO₂ = 1, CH₄ = 25, N₂O = 298, SF₆ = 22,800
3. The GHG Mass Basis TPY limit and the CO₂e TPY limit for the natural gas fired simple cycle turbines applies to each turbine and is not a combined limit.
4. The GHG Mass Basis TPY limit and the CO₂e TPY limit for the natural gas fired simple cycle turbines – MSS included emissions associated with gaseous fuel venting of the fuel lines during a turbine shutdown or maintenance and applies to each turbine and is not a combined limit.
5. The values indicated as “No Numerical Limits Established” are less than 0.01 TPY with appropriate rounding. The emission limit will be a design / work practice standard as specified in the permit.
6. Fugitive Leak Emissions from SF₆-FUG are estimated to be 0.0006 TPY SF₆ and 13.7 CO₂e. In lieu of an

emission limit, the emissions will be limited by implementing a design / work practice standard as specified in the permit.

7. Fugitive Leak Emissions from NG-FUG are estimated to be 0.134 TPY CO₂, 10.08 TPY CH₄, and 252.25 TPY CO₂e. In lieu of an emission limit, the emissions will be limited by implementing a design / work practice standard as specified in the permit.
8. Total emissions include the PTE for fugitive emissions. Totals are given for informational purposes only and do not constitute emission limits.

III. SPECIAL PERMIT CONDITIONS

A. Requirements for the Natural Gas Fired-Simple Cycle Turbines (EPNs CTG-1 and CTG-2)

4. Startup and Shutdown Requirements for Turbines:

- c. Emissions during each startup and shutdown activity as well as annual startup and shutdown activities shall be minimized by limiting the duration of operation in startup and shutdown as follows:
 - i. Each startup and each shutdown is limited to no more than 60 minutes.
 - ii. Startup and shutdown activities are limited to 500 total hours per unit, on a 12 month rolling total.
- d. Startup and shutdown emissions shall not exceed the BACT emission limit of 21 tons CO₂e per combined startup and shutdown event, and an annual emission limit of 10,502 tons CO₂e per year, per unit.
- e. The maximum heat input during startup shall be limited to 350 MMBtu.

IV. Recordkeeping and Reporting

A. Records

10. Permit holders must keep records sufficient to demonstrate compliance with 30 Texas Administrative Code § 116.164. If construction, a physical change or a change in method of operation results in Prevention of Significant Deterioration (PSD) review for criteria pollutants, records shall be sufficient to demonstrate the amount of emissions of GHGs from the source as a result of construction, a physical change or a change in method of operation does not require authorization under 30 TAC §116.164(a). If there is construction, a physical change or change in the method of operation that will result in a net emissions increase of 75,000 tpy or more CO₂e and PSD review is triggered for criteria pollutants, greenhouse gas emissions are subject to PSD review. Allowable emission rates and special conditions are updated to be consistent with records required by 30 TAC §116.164.

Date: August 24, 2016